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<110> Jones, Michael H.

<120> TRANSCRIPTIONAL REGULATOR

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<141> 2001-04-20

<150> US 09/418,710

<151> 1999-10-15

<150> PCT/JP98/01783

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gac aga ctt ttg ggg ata aaa aca gaa act cca agt act gta tca aca Asp Arg Leu Leu Gly Ile Lys Thr Glu Thr Pro Ser Thr Val Ser Thr 1170 1175 1180	3673
aat gca agt aca cca caa tca gtg agc agt gtg gtt cat tat ctg gca Asn Ala Ser Thr Pro Gln Ser Val Ser Ser Val Val His Tyr Leu Ala 1185 1190 1195	3721
atg gca ctc ttt caa ata gag cag ggc att gag cgg cgt ttt ctg aaa Met Ala Leu Phe Gln Ile Glu Gln Gly Ile Glu Arg Arg Phe Leu Lys 1200 1205 1210 1215	3769
gct cca ctt gat gcc agt gac agt ggg cgt tct tat aaa aca gtt ctg Ala Pro Leu Asp Ala Ser Asp Ser Gly Arg Ser Tyr Lys Thr Val Leu 1220 1225 1230	3817
gac cgt tgg aga gag tct ctc ctt tct tct gct agt cta tcc caa gtt	3865

Asp Arg Trp Arg Glu Ser Leu Leu Ser Ser Ala Ser Leu Ser Gln Val	
1235 1240 1245	
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Phe Leu His Leu Ser Thr Leu Asp Arg Ser Val Ile Trp Ser Lys Ser	
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ata ctg aat gcg cgt tgc aag ata tgt cga aag aaa ggc gat gct gaa	3961
Ile Leu Asn Ala Arg Cys Lys Ile Cys Arg Lys Lys Gly Asp Ala Glu	
1265 1270 1275	
aac atg gtt ctt tgt gat ggc tgt gat agg ggt cat cat acc tac tgt	4009
Asn Met Val Leu Cys Asp Gly Cys Asp Arg Gly His His Thr Tyr Cys	
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Val Arg Pro Lys Leu Lys Thr Val Pro Glu Gly Asp Trp Phe Cys Pro	
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gaa tgt cga cca aag caa cgt tgt aga aga ctg tcc ttt aga cag aga	4105
Glu Cys Arg Pro Lys Gln Arg Cys Arg Arg Leu Ser Phe Arg Gln Arg	
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cca tcc ttg gaa agt gat gaa gat gtg gaa gac agt atg gga ggt gag	4153
Pro Ser Leu Glu Ser Asp Glu Asp Val Glu Asp Ser Met Gly Gly Glu	
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gat gat gaa gtt gat ggc gat gaa gaa gaa ggt caa agt gag gag gaa	4201
Asp Asp Glu Val Asp Gly Asp Glu Glu Glu Gly Gln Ser Glu Glu Glu	
1345 1350 1355	
gag tat gag gta gaa caa gat gaa gat gac tct caa gaa gag gaa gaa	4249
Glu Tyr Glu Val Glu Gln Asp Glu Asp Asp Ser Gln Glu Glu Glu Glu	
1360 1365 1370 1375	
gtc agc cta ccc aaa cga gga aga cca caa gtt aga ttg cca gtt aaa	4297
Val Ser Leu Pro Lys Arg Gly Arg Pro Gln Val Arg Leu Pro Val Lys	
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aca aga ggg aaa ctt agc tct tct ttc tca agt cgt ggc caa caa caa	4345
Thr Arg Gly Lys Leu Ser Ser Ser Phe Ser Ser Arg Gly Gln Gln Gln	
1395 1400 1405	
gaa cct gga aga tac cct tcc agg agt cag cag agc aca ccc aaa aca	4393
Glu Pro Gly Arg Tyr Pro Ser Arg Ser Gln Gln Ser Thr Pro Lys Thr	
1410 1415 1420	
act gtt tct tct aaa act ggt aga agc cta aga aag ata aac tct gct	4441
Thr Val Ser Ser Lys Thr Gly Arg Ser Leu Arg Lys Ile Asn Ser Ala	
1425 1430 1435	
cct cct aca gaa aca aaa tct tta aga att gcc agt cgt tct act cgc	4489
Pro Pro Thr Glu Thr Lys Ser Leu Arg Ile Ala Ser Arg Ser Thr Arg	
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cac agt cat ggc cca ctg caa gca gat gta ttt gtg gaa ttg ctt agt	4537
His Ser His Gly Pro Leu Gln Ala Asp Val Phe Val Glu Leu Leu Ser	

1460	1465	1470	
cct cgt aga aaa cgc aga ggc agg aaa agt gct aat aat aca cca gaa Pro Arg Arg Lys Arg Arg Gly Arg Lys Ser Ala Asn Asn Thr Pro Glu 1475 1480 1485			4585
aat agt ccc aac ttc cct aac ttc aga gtc att gcc aca aag tca agt Asn Ser Pro Asn Phe Pro Asn Phe Arg Val Ile Ala Thr Lys Ser Ser 1490 1495 1500			4633
gaa cag tca aga tct gta aat att gct tca aaa ctt tct ctc caa gag Glu Gln Ser Arg Ser Val Asn Ile Ala Ser Lys Leu Ser Leu Gln Glu 1505 1510 1515			4681
agt gaa tcc aaa aga aga tgc aga aaa aga caa tct cca gag cca tcg Ser Glu Ser Lys Arg Arg Cys Arg Lys Arg Gln Ser Pro Glu Pro Ser 1520 1525 1530 1535			4729
cct gtg aca ctg ggt cga agg agt tct ggc cga cag gga gga gtt cat Pro Val Thr Leu Gly Arg Arg Ser Ser Gly Arg Gln Gly Gly Val His 1540 1545 1550			4777
gaa ttg tct gct ttt gaa caa ctt gtt gta gaa ttg gta cga cat gat Glu Leu Ser Ala Phe Glu Gln Leu Val Val Glu Leu Val Arg His Asp 1555 1560 1565			4825
gac agc tgg cct ttt ttg aaa ctt gtt tct aaa atc cag gtc cca gac Asp Ser Trp Pro Phe Leu Lys Leu Val Ser Lys Ile Gln Val Pro Asp 1570 1575 1580			4873
tac tat gac atc atc aaa aag ccc att gcc tta aat ata att cgt gaa Tyr Tyr Asp Ile Ile Lys Lys Pro Ile Ala Leu Asn Ile Ile Arg Glu 1585 1590 1595			4921
aaa gtg aat aag tgt gaa tat aaa tta gca tct gag ttt att gat gac Lys Val Asn Lys Cys Glu Tyr Lys Leu Ala Ser Glu Phe Ile Asp Asp 1600 1605 1610 1615			4969
att gag tta atg ttt tcg aac tgc ttt gaa tac aac cct cgt aac aca Ile Glu Leu Met Phe Ser Asn Cys Phe Glu Tyr Asn Pro Arg Asn Thr 1620 1625 1630			5017
agt gaa gca aaa gct gga act agg ctt caa gca ttt ttt cat att cag Ser Glu Ala Lys Ala Gly Thr Arg Leu Gln Ala Phe Phe His Ile Gln 1635 1640 1645			5065
gct caa aag ctt gga ctc cac gtc aca ccc agt aat gtg gac caa gtt Ala Gln Lys Leu Gly Leu His Val Thr Pro Ser Asn Val Asp Gln Val 1650 1655 1660			5113
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ctaataagtt	tgatagatgt	attggataca	gtactgggtt	acagagggtt	ttgtacattt	5406
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gttattgatg	atttattttt	aaagtgggtg	tattaaggga	gagttatcta	catggatgag	5526
tcttccgcta	tagcacagtt	tagaaaaggt	gtttatgtct	taattaattg	tttgagtaca	5586
ttctttcaac	actacacatg	aatgaatcca	atcttataac	cttgaagtgc	tgtaccagtg	5646
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aaccttttac	tgtgttttta	ttcctctaac	ttccttaatg	atcaatcaaa	aaaagtaaca	5826
ccctcccttt	ttcctgacag	ttctttcagc	tttacagaac	tgtattataa	gttcgatgta	5886
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<212> DNA

<213> Homo sapiens

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<211> 23

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<213> Artificial Sequence

<220>

<223> Synthetically generated primer

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<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated primer

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<212> DNA

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24

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<212> DNA

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<223> Synthetically generated primer

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24

<210> 10

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetically generated primer

<400> 10

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25

<210> 11

<211> 24

<212> DNA

<213> Artificial Sequence

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<223> Synthetically generated primer

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24

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<211> 24

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<220>
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<400> 12
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24

<210> 13
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 35 40 45
 Gly Lys Ser Leu Asn Gly Asp Val Asn Val Asn Gly Leu Ser Thr Val
 50 55 60
 Ser His Thr Thr Thr Ser Gly Ile Leu Asn Ser Ala Pro His Ser Ser
 65 70 75 80
 Ser Thr Ser His Leu His His Pro Ser Val Ala Tyr Asp Cys Leu Trp
 85 90 95
 Asn Tyr Ser Gln Tyr Pro Ser Ala Asn Pro Gly Ser Asn Leu Lys Asp
 100 105 110
 Pro Pro Leu Leu Ser Gln Phe Ser Gly Gly Gln Tyr Pro Leu Asn Gly
 115 120 125
 Ile Leu Gly Gly Ser Arg Gln Pro Ser Ser Pro Ser His Asn Thr Asn
 130 135 140
 Leu Arg Ala Gly Ser Gln Lys Phe Trp Ala Asn Gly Thr His Ser Pro
 145 150 155 160
 Met Gly Leu Asn Phe Asp Ser Gln Glu Leu Tyr Asp Ser Phe Pro Asp
 165 170 175
 Gln Asn Phe Glu Val Cys Ser Gly Ile His Pro Asp Glu Ala Ala
 180 185 190
 Glu Lys Glu Met Thr Ser Val Val Ala Glu Asn Gly Thr Gly Leu Val
 195 200 205
 Cys Ser Leu Glu Leu Glu Glu Xaa Gln Pro Glu Leu Lys Met Cys Gly
 210 215 220
 Tyr Asn Gly Ser Val Pro Ser Val Glu Ser Leu His Gln Glu Val Ser
 225 230 235 240
 Val Leu Val Pro Asp Pro Thr Val Ser Cys Leu Asp Asp Pro Ser His
 245 250 255
 Leu Pro Asp Gln Leu Glu Asp Thr Pro Ile Leu Ser Glu Asp Ser Leu
 260 265 270
 Glu Pro Phe Asn Ser Leu Ala Pro Glu Pro Val Ser Gly Gly Leu Tyr
 275 280 285
 Gly Ile Asp Asp Thr Glu Leu Met Gly Ala Glu Asp Lys Leu Pro Leu
 290 295 300
 Xaa Asp Ser Pro Val Ile Ser Ala Leu Asp Cys Pro Ser Leu Asn Asn
 305 310 315 320

Ala Thr Ala Phe Ser Leu Leu Ala Asp Asp Ser Gln Thr Ser Thr Ser
 325 330 335
 Ile Phe Ala Ser Pro Thr Ser Pro Pro Val Leu Gly Glu Ser Val Leu
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 Gln Asp Asn Ser Phe Asp Leu Asn Asn Gly Ser Asp Ala Glu Gln Glu
 355 360 365
 Glu Met Glu Thr Gln Ser Ser Asp Phe Pro Pro Ser Leu Thr Gln Pro
 370 375 380
 Ala Pro Asp Gln Ser Ser Thr Ile Gln Leu His Pro Ala Thr Ser Pro
 385 390 395 400
 Ala Val Ser Pro Thr Thr Ser Pro Ala Val Ser Leu Val Val Ser Pro
 405 410 415
 Ala Ala Ser Pro Glu Ile Ser Pro Glu Val Cys Pro Ala Ala Ser Thr
 420 425 430
 Val Val Ser Pro Ala Val Phe Ser Val Val Ser Pro Ala Ser Ser Ala
 435 440 445
 Val Leu Pro Ala Val Ser Leu Glu Val Pro Leu Thr Ala Ser Val Thr
 450 455 460
 Ser Pro Lys Ala Ser Pro Val Thr Ser Pro Ala Ala Ala Phe Pro Thr
 465 470 475 480
 Ala Ser Pro Ala Asn Lys Asp Val Ser Ser Phe Leu Glu Thr Thr Ala
 485 490 495
 Asp Val Glu Glu Ile Thr Gly Glu Gly Leu Thr Ala Ser Gly Ser Gly
 500 505 510
 Asp Val Met Arg Arg Arg Ile Ala Thr Pro Glu Glu Val Arg Leu Pro
 515 520 525
 Leu Gln His Gly Trp Arg Arg Glu Val Arg Ile Lys Lys Gly Ser His
 530 535 540
 Arg Trp Gln Gly Glu Thr Trp Tyr Tyr Gly Pro Cys Gly Lys Arg Met
 545 550 555 560
 Lys Gln Phe Pro Glu Val Ile Lys Tyr Leu Ser Arg Asn Leu Val His
 565 570 575
 Ser Val Arg Arg Glu His Phe Ser Phe Ser Pro Arg Met Pro Val Gly
 580 585 590
 Asp Phe Phe Glu Glu Arg Asp Thr Pro Glu Gly Leu Gln Trp Val Gln
 595 600 605
 Leu Ser Ala Glu Glu Ile Pro Ser Arg Ile Gln Ala Ile Thr Gly Lys
 610 615 620
 Arg Gly Arg Pro Arg Asn Thr Glu Lys Ala Lys Thr Lys Glu Val Pro
 625 630 635 640
 Lys Val Lys Arg Gly Arg Gly Arg Pro Pro Lys Val Lys Ile Thr Glu
 645 650 655
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 660 665 670
 Glu Thr Leu Asn Glu Glu Asp Lys Ala Lys Ile Ala Lys Ser Lys Lys
 675 680 685
 Lys Met Arg Gln Lys Val Gln Arg Gly Glu Cys Leu Thr Thr Ile Gln
 690 695 700
 Gly Gln Ala Arg Asn Lys Arg Lys Gln Glu Thr Lys Ser Leu Lys His
 705 710 715 720
 Lys Glu Ala Lys Lys Lys Ser Xaa Ala Glu Lys Glu Lys Gly Lys Thr
 725 730 735
 Lys Gln Glu Lys Leu Lys Glu Lys Val Lys Arg Glu Lys Lys Glu Lys
 740 745 750
 Val Lys Met Lys Glu Lys Glu Glu Val Thr Lys Ala Lys Pro Ala Cys
 755 760 765
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770	775	780
Lys Gln Gln Met Ile Leu Glu Glu Met Lys Lys Pro Thr Glu Asp Met		
785	790	795
Cys Leu Thr Asp His Gln Pro Leu Pro Asp Phe Ser Arg Val Pro Gly		800
	805	810
Leu Thr Leu Pro Ser Gly Ala Phe Ser Asp Cys Leu Thr Ile Val Glu		815
	820	825
Phe Leu His Ser Phe Gly Lys Val Leu Gly Phe Asp Pro Ala Lys Asp		830
	835	840
Val Pro Ser Leu Gly Val Leu Gln Glu Gly Leu Leu Cys Gln Gly Asp		845
	850	855
Ser Leu Gly Glu Val Gln Asp Leu Leu Val Arg Leu Leu Lys Ala Ala		860
865	870	875
Leu His Asp Pro Gly Phe Pro Ser Tyr Cys Gln Ser Leu Lys Ile Leu		880
	885	890
Gly Glu Lys Val Ser Glu Ile Pro Leu Thr Arg Asp Asn Val Ser Glu		895
	900	905
Ile Leu Arg Cys Phe Leu Met Ala Tyr Gly Val Xaa Pro Ala Leu Cys		910
	915	920
Asp Arg Leu Arg Thr Gln Pro Phe Gln Ala Gln Pro Pro Gln Gln Lys		925
	930	935
Ala Ala Val Leu Ala Phe Pro Val His Glu Leu Asn Gly Ser Thr Leu		940
945	950	955
Ile Ile Asn Glu Ile Asp Lys Thr Leu Glu Ser Met Ser Ser Tyr Arg		960
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Lys Asn Lys Trp Ile Val Glu Gly Arg Leu Arg Arg Leu Lys Thr Val		975
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Glu Cys Leu Gly Arg Arg Arg Ser Ser Arg Ile Met Glu Glu Thr Ser		1005
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Pro Glu Leu Glu Arg Gln Ile Glu Lys Leu Ser Lys Arg Gln Leu Phe		1055
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Phe Arg Lys Lys Leu Leu His Ser Ser Gln Met Leu Arg Ala Val Ser		1070
	1075	1080
Leu Gly Gln Asp Arg Tyr Arg Arg Arg Tyr Trp Val Leu Pro Tyr Leu		1085
	1090	1095
Ala Gly Ile Phe Val Glu Gly Thr Glu Gly Asn Leu Val Pro Glu Glu		1100
1105	1110	1115
Val Ile Lys Lys Glu Thr Asp Ser Leu Lys Val Ala Ala His Ala Ser		1120
	1125	1130
Leu Asn Pro Ala Leu Phe Ser Met Lys Met Glu Leu Ala Gly Ser Asn		1135
	1140	1145
Thr Thr Ala Ser Ser Pro Ala Arg Ala Arg Ser Arg Pro Leu Lys Thr		1150
	1155	1160
Lys Pro Gly Phe Met Gln Pro Arg His Phe Lys Ser Pro Val Arg Gly		1165
	1170	1175
Gln Asp Ser Glu Gln Pro Gln Ala Gln Leu Gln Pro Glu Ala Gln Leu		1180
1185	1190	1195
His Val Pro Ala Gln Pro Gln Pro Gln Leu Gln Leu Gln Ser		1200
	1205	1210
His Lys Gly Phe Leu Glu Gln Glu Gly Ser Pro Leu Ser Leu Gly Gln		1215
	1220	1225
		1230

Ser Gln His Asp Leu Ser Gln Ser Ala Phe Leu Ser Trp Leu Ser Gln
 1235 1240 1245
 Thr Gln Ser His Ser Ser Leu Leu Ser Ser Ser Val Leu Thr Pro Asp
 1250 1255 1260
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 Pro Glu Pro Asp Glu Ala Glu Ser Ser Pro Asp Leu Gln Ala Phe Trp
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 Phe Asn Ile Ser Ala Gln Met Pro Cys Asn Ala Ala Pro Thr Pro Pro
 1300 1305 1310
 Leu Ala Val Ser Glu Asp Gln Pro Thr Pro Ser Pro Gln Gln Leu Ala
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 Ser Ser Lys Pro Met Asn Arg Pro Ser Ala Ala Asn Pro Cys Ser Pro
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 Cys Leu Gly His Leu Glu Arg Ser Ile Ala Trp Glu Lys Ser Val Asn
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 Lys Val Thr Cys Leu Val Cys Arg Lys Gly Asp Asn Asp Glu Phe Leu
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 1665 1670 1675 1680
 Pro Lys Met Glu Ala Val Pro Glu Gly Asp Trp Phe Cys Thr Val Cys

	1685		1690		1695										
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Lys	Arg	Gly	Gln	Lys	Arg	Lys	Ser	Gly	Tyr	Ser	Leu	Asn	Phe	Ser	Glu
	1715						1720					1725			
Gly	Asp	Gly	Arg	Arg	Arg	Arg	Val	Leu	Leu	Lys	Gly	Arg	Glu	Ser	Pro
	1730						1735				1740				
Ala	Ala	Gly	Pro	Arg	Tyr	Ser	Glu	Glu	Arg	Leu	Ser	Pro	Ser	Lys	Arg
	1745				1750				1755					1760	
Arg	Arg	Leu	Ser	Met	Arg	Asn	His	His	Ser	Asp	Leu	Thr	Phe	Cys	Glu
			1765				1770						1775		
Ile	Ile	Leu	Met	Glu	Met	Glu	Ser	His	Asp	Ala	Ala	Trp	Pro	Phe	Xaa
		1780					1785					1790			
Glu	Pro	Val	Asn	Pro	Arg	Leu	Val	Ser	Gly	Tyr	Arg	Arg	Ile	Ile	Lys
	1795						1800					1805			
Asn	Pro	Met	Asp	Phe	Ser	Thr	Met	Arg	Glu	Arg	Leu	Leu	Arg	Gly	Gly
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Tyr	Thr	Ser	Ser	Glu	Glu	Phe	Ala	Ala	Asp	Ala	Leu	Leu	Val	Phe	Asp
	1825				1830				1835					1840	
Asn	Cys	Gln	Thr	Phe	Asn	Glu	Asp	Asp	Ser	Glu	Val	Gly	Lys	Ala	Gly
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His	Ile	Met	Arg	Arg	Phe	Phe	Glu	Ser	Arg	Trp	Glu	Glu	Phe	Tyr	Gln
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 <213> Homo sapiens

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<221> misc_feature
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caccaacctt	tacgtgaagt	ggaggcccaa	ggacagtgag	gagctgggtg	gtcccagcct												720
ggagctgtgc	cagcctgac	atg gaa atg	gag gca aac	gag gca aac	gac cat												772
		Met Glu Met	Glu Ala Asn	Glu Ala Asn	Asp His												
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ttt aac ttt act ggc ctt ccc cct gca cct gct gcc tca gga ctg aaa 820

Phe	Asn	Phe	Thr	Gly	Leu	Pro	Pro	Ala	Pro	Ala	Ala	Ser	Gly	Leu	Lys	
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ccc	tct	cct	tcc	tca	ggg	gag	ggc	ctc	tac	act	aac	ggg	tct	ccc	atg	868
Pro	Ser	Pro	Ser	Ser	Gly	Glu	Gly	Leu	Tyr	Thr	Asn	Gly	Ser	Pro	Met	
		30					35					40				
aac	ttc	ccc	cag	caa	ggg	aaa	agt	ttg	aat	ggg	gat	gtg	aat	gtt	aat	916
Asn	Phe	Pro	Gln	Gln	Gly	Lys	Ser	Leu	Asn	Gly	Asp	Val	Asn	Val	Asn	
	45					50				55						
ggc	tta	tct	act	gta	tct	cac	act	act	act	tca	ggg	att	ttg	aac	tct	964
Gly	Leu	Ser	Thr	Val	Ser	His	Thr	Thr	Thr	Ser	Gly	Ile	Leu	Asn	Ser	
60					65				70					75		
gct	ccc	cac	tcc	tcc	agc	acc	tca	cac	ctc	cat	cac	ccc	agc	gtg	gcc	1012
Ala	Pro	His	Ser	Ser	Ser	Thr	Ser	His	Leu	His	His	Pro	Ser	Val	Ala	
				80				85						90		
tac	gac	tgt	ctc	tgg	aac	tac	tca	cag	tac	cca	tct	gcc	aat	cct	ggc	1060
Tyr	Asp	Cys	Leu	Trp	Asn	Tyr	Ser	Gln	Tyr	Pro	Ser	Ala	Asn	Pro	Gly	
		95					100					105				
agc	aac	ctc	aag	gac	cca	ccc	ctt	ctc	tcc	cag	ttc	tcg	ggg	gga	caa	1108
Ser	Asn	Leu	Lys	Asp	Pro	Pro	Leu	Leu	Ser	Gln	Phe	Ser	Gly	Gly	Gln	
		110					115					120				
tac	cca	ctc	aac	ggc	atc	ctt	ggg	ggc	agc	cgg	caa	cct	tca	tcc	cca	1156
Tyr	Pro	Leu	Asn	Gly	Ile	Leu	Gly	Gly	Ser	Arg	Gln	Pro	Ser	Ser	Pro	
	125					130					135					
agt	cat	aac	act	aac	ctt	cgg	gct	ggg	agc	caa	aag	ttc	tgg	gcc	aac	1204
Ser	His	Asn	Thr	Asn	Leu	Arg	Ala	Gly	Ser	Gln	Lys	Phe	Trp	Ala	Asn	
140					145				150					155		
ggt	acc	cat	agt	ccc	atg	ggg	ctt	aac	ttt	gat	tca	caa	gaa	ctg	tat	1252
Gly	Thr	His	Ser	Pro	Met	Gly	Leu	Asn	Phe	Asp	Ser	Gln	Glu	Leu	Tyr	
				160				165						170		
gat	tcc	ttt	cct	gac	cag	aat	ttt	gag	gag	gta	tgc	agt	ggt	atc	cat	1300
Asp	Ser	Phe	Pro	Asp	Gln	Asn	Phe	Glu	Glu	Val	Cys	Ser	Gly	Ile	His	
			175					180					185			
cct	gat	gag	gca	gca	gaa	aaa	gag	atg	act	tcc	gtt	gtg	gca	gaa	aat	1348
Pro	Asp	Glu	Ala	Ala	Glu	Lys	Glu	Met	Thr	Ser	Val	Val	Ala	Glu	Asn	
		190					195					200				
ggc	act	ggc	ttg	gta	tgc	agc	ttg	gag	ctg	gaa	gaa	naa	cag	cca	gaa	1396
Gly	Thr	Gly	Leu	Val	Cys	Ser	Leu	Glu	Leu	Glu	Glu	Xaa	Gln	Pro	Glu	
	205					210					215					
ctg	aag	atg	tgt	ggc	tac	aat	ggc	tct	gtc	cct	tct	gtg	gaa	tcg	tta	1444
Leu	Lys	Met	Cys	Gly	Tyr	Asn	Gly	Ser	Val	Pro	Ser	Val	Glu	Ser	Leu	
220					225					230					235	
cac	caa	gag	gtc	tca	gtc	ctg	gtc	cct	gac	ccc	aca	gtg	agc	tgt	tta	1492
His	Gln	Glu	Val	Ser	Val	Leu	Val	Pro	Asp	Pro	Thr	Val	Ser	Cys	Leu	

240	245	250	
gat gat cct tca cat ctt cct gat caa ctg gaa gac act cca atc ctc Asp Asp Pro Ser His Leu Pro Asp Gln Leu Glu Asp Thr Pro Ile Leu 255 260 265			1540
agt gaa gac tct ctg gag ccc ttc aac tct ctg gca cca gag cca gtg Ser Glu Asp Ser Leu Glu Pro Phe Asn Ser Leu Ala Pro Glu Pro Val 270 275 280			1588
agt gga gga cta tat ggt att gat gac acg gag ctg atg ggt gca gaa Ser Gly Gly Leu Tyr Gly Ile Asp Asp Thr Glu Leu Met Gly Ala Glu 285 290 295			1636
gac aag ctg cct ctt gan gac agc cct gtg att tct gcc ctt gat tgc Asp Lys Leu Pro Leu Xaa Asp Ser Pro Val Ile Ser Ala Leu Asp Cys 300 305 310 315			1684
cct tcc ctc aat aat gct act gcc ttc agt ctc ctg gca gat gat agt Pro Ser Leu Asn Asn Ala Thr Ala Phe Ser Leu Leu Ala Asp Asp Ser 320 325 330			1732
caa aca tca act tct atc ttt gcc agt ccc act tct cca cct gtc cta Gln Thr Ser Thr Ser Ile Phe Ala Ser Pro Thr Ser Pro Pro Val Leu 335 340 345			1780
ggg gag tct gtc ctg caa gat aac agc ttt gac ctg aat aat ggt agt Gly Glu Ser Val Leu Gln Asp Asn Ser Phe Asp Leu Asn Asn Gly Ser 350 355 360			1828
gac gct gaa cag gaa gaa atg gaa act caa tct tca gac ttc cca cca Asp Ala Glu Gln Glu Glu Met Glu Thr Gln Ser Ser Asp Phe Pro Pro 365 370 375			1876
tcc ctg acc cag cca gct cct gat cag tca tcc act att cag cta cat Ser Leu Thr Gln Pro Ala Pro Asp Gln Ser Ser Thr Ile Gln Leu His 380 385 390 395			1924
cca gca acc tca cca gca gtc tcg cca aca acc tcc cca gca gtc tcc Pro Ala Thr Ser Pro Ala Val Ser Pro Thr Thr Ser Pro Ala Val Ser 400 405 410			1972
cta gtg gtt tct cca gca gcc tcc cca gaa atc tct cca gaa gtt tgt Leu Val Val Ser Pro Ala Ala Ser Pro Glu Ile Ser Pro Glu Val Cys 415 420 425			2020
ccc gca gct tct aca gtt gtc tct cca gca gtc ttc tca gtg gtc tct Pro Ala Ala Ser Thr Val Val Ser Pro Ala Val Phe Ser Val Val Ser 430 435 440			2068
cca gct tct tca gca gtc ctc cca gca gtc tcc tta gaa gtc ccg ttg Pro Ala Ser Ser Ala Val Leu Pro Ala Val Ser Leu Glu Val Pro Leu 445 450 455			2116
acg gct tca gtg aca tcc cca aaa gcc tct ccc gta act tcc cca gca Thr Ala Ser Val Thr Ser Pro Lys Ala Ser Pro Val Thr Ser Pro Ala 460 465 470 475			2164

gct gcc ttt cca aca gcc tcc cca gca aat aag gat gtc agc agc ttt Ala Ala Phe Pro Thr Ala Ser Pro Ala Asn Lys Asp Val Ser Ser Phe 480 485 490	2212
cta gaa acc act gct gac gtg gaa gag atc act gga gaa gga ctc act Leu Glu Thr Thr Ala Asp Val Glu Glu Ile Thr Gly Glu Gly Leu Thr 495 500 505	2260
gct tct ggt agt ggt gat gtc atg agg aga cgt att gct acc cca gaa Ala Ser Gly Ser Gly Asp Val Met Arg Arg Arg Ile Ala Thr Pro Glu 510 515 520	2308
gaa gtt cgt ctt ccc ctc caa cat ggg tgg cgg aga gag gtg cgc atc Glu Val Arg Leu Pro Leu Gln His Gly Trp Arg Arg Glu Val Arg Ile 525 530 535	2356
aag aag ggc agc cac cga tgg cag ggg gag acn tgg tat tat ggc ccc Lys Lys Gly Ser His Arg Trp Gln Gly Glu Thr Trp Tyr Tyr Gly Pro 540 545 550 555	2404
tgt ggg aag agg atg aag caa ttt cca gaa gtg atc aag tac ctg agc Cys Gly Lys Arg Met Lys Gln Phe Pro Glu Val Ile Lys Tyr Leu Ser 560 565 570	2452
cgc aac ctg gta cac agt gtc cgc cga gag cac ttc agc ttc agt ccc Arg Asn Leu Val His Ser Val Arg Arg Glu His Phe Ser Phe Ser Pro 575 580 585	2500
cgt atg cct gtt gga gat ttc ttt gaa gaa aga gac acg cca gag ggc Arg Met Pro Val Gly Asp Phe Phe Glu Glu Arg Asp Thr Pro Glu Gly 590 595 600	2548
ttg cag tgg gtg cag ctc tca gca gag gag atc ccg tcg agg att cag Leu Gln Trp Val Gln Leu Ser Ala Glu Glu Ile Pro Ser Arg Ile Gln 605 610 615	2596
gca att act ggc aaa cgg ggt cga cct cga aac act gag aag gct aag Ala Ile Thr Gly Lys Arg Gly Arg Pro Arg Asn Thr Glu Lys Ala Lys 620 625 630 635	2644
act aag gaa gtc ccc aag gtg aaa cgg ggt cga ggt cgg cca cct aag Thr Lys Glu Val Pro Lys Val Lys Arg Gly Arg Gly Arg Pro Pro Lys 640 645 650	2692
gtc aaa atc act gag cta ttg aac aag aca gac aac cgc ccc cta aag Val Lys Ile Thr Glu Leu Leu Asn Lys Thr Asp Asn Arg Pro Leu Lys 655 660 665	2740
aaa ctg gag gcc caa gaa aca ttg aat gag gag gat aaa gca aag att Lys Leu Glu Ala Gln Glu Thr Leu Asn Glu Glu Asp Lys Ala Lys Ile 670 675 680	2788
gct aaa agc aag aag aag atg agg cag aag gtt caa cgg gga gag tgt Ala Lys Ser Lys Lys Lys Met Arg Gln Lys Val Gln Arg Gly Glu Cys 685 690 695	2836

ctn act act atc caa ggg cag gcc aga aat aag cgg aaa caa gag acc	2884
Leu Thr Thr Ile Gln Gly Gln Ala Arg Asn Lys Arg Lys Gln Glu Thr	
700 705 710 715	
aag agc tta aag cac aag gaa gct aag aag aaa tcc nag gct gag aaa	2932
Lys Ser Leu Lys His Lys Glu Ala Lys Lys Lys Ser Xaa Ala Glu Lys	
720 725 730	
gaa aaa gga aag aca aag cag gaa aaa ctg aag gaa aaa gtc aag agg	2980
Glu Lys Gly Lys Thr Lys Gln Glu Lys Leu Lys Glu Lys Val Lys Arg	
735 740 745	
gaa aag aag gag aag gtt aaa atg aag gaa aag gag gag gtg acc aaa	3028
Glu Lys Lys Glu Lys Val Lys Met Lys Glu Lys Glu Glu Val Thr Lys	
750 755 760	
gcc aag cca gcc tgt aaa gca gat aag acc ctg gcc aca cag agg cgc	3076
Ala Lys Pro Ala Cys Lys Ala Asp Lys Thr Leu Ala Thr Gln Arg Arg	
765 770 775	
ttg gag gaa cgg cag aag cag cag atg atc ttg gag gaa atg aag aag	3124
Leu Glu Glu Arg Gln Lys Gln Gln Met Ile Leu Glu Glu Met Lys Lys	
780 785 790 795	
ccg aca gag gat atg tgt ctg act gac cac cag ccc ctg cct gac ttc	3172
Pro Thr Glu Asp Met Cys Leu Thr Asp His Gln Pro Leu Pro Asp Phe	
800 805 810	
tca cga gtc cct ggt ctg aca ttg ccc agt gga gcc ttc tca gac tgc	3220
Ser Arg Val Pro Gly Leu Thr Leu Pro Ser Gly Ala Phe Ser Asp Cys	
815 820 825	
ttg acc att gtg gag ttc ctg cat agc ttt ggc aag gtg ctg ggc ttt	3268
Leu Thr Ile Val Glu Phe Leu His Ser Phe Gly Lys Val Leu Gly Phe	
830 835 840	
gat cct gcc aaa gat gtg cct agc ctg ggg gtc ctg cag gag gga ctc	3316
Asp Pro Ala Lys Asp Val Pro Ser Leu Gly Val Leu Gln Glu Gly Leu	
845 850 855	
ctg tgt caa ggt gac agc ttg ggt gag gtg caa gac ctg ctg gtc agg	3364
Leu Cys Gln Gly Asp Ser Leu Gly Glu Val Gln Asp Leu Leu Val Arg	
860 865 870 875	
ctg ctg aag gct gca ctc cat gat cct ggc ttt ccc tcc tac tgt cag	3412
Leu Leu Lys Ala Ala Leu His Asp Pro Gly Phe Pro Ser Tyr Cys Gln	
880 885 890	
tcc cta aag atc ttg ggg gag aag gtg tct gaa atc cca ctg aca aga	3460
Ser Leu Lys Ile Leu Gly Glu Lys Val Ser Glu Ile Pro Leu Thr Arg	
895 900 905	
gac aat gtg tca gag atc ctg cgc tgc ttc ctt atg gca tat gga gta	3508
Asp Asn Val Ser Glu Ile Leu Arg Cys Phe Leu Met Ala Tyr Gly Val	
910 915 920	
nag cca gcc ctc tgt gac cgc ctg cgc acc cag cct ttt cag gcc cag	3556

Xaa	Pro	Ala	Leu	Cys	Asp	Arg	Leu	Arg	Thr	Gln	Pro	Phe	Gln	Ala	Gln	
925						930					935					
cca	ccc	cag	cag	aag	gct	gct	gtc	ctg	gcc	ttc	cct	gtg	cat	gag	ctc	3604
Pro	Pro	Gln	Gln	Lys	Ala	Ala	Val	Leu	Ala	Phe	Pro	Val	His	Glu	Leu	
940					945					950					955	
aat	ggc	tcc	acc	ctc	atc	atc	aat	gag	att	gac	aag	act	ctg	gag	agt	3652
Asn	Gly	Ser	Thr	Leu	Ile	Ile	Asn	Glu	Ile	Asp	Lys	Thr	Leu	Glu	Ser	
				960					965					970		
atg	tcc	agc	tac	agg	aaa	aac	aag	tgg	att	gtt	gaa	ggc	cgg	ctc	cgg	3700
Met	Ser	Ser	Tyr	Arg	Lys	Asn	Lys	Trp	Ile	Val	Glu	Gly	Arg	Leu	Arg	
			975					980					985			
agg	ctg	aaa	act	gtt	ctg	gcc	aag	cga	act	ggg	cgg	tct	gaa	gta	gag	3748
Arg	Leu	Lys	Thr	Val	Leu	Ala	Lys	Arg	Thr	Gly	Arg	Ser	Glu	Val	Glu	
		990					995					1000				
atg	gga	agg	cca	gag	gaa	tgc	ctg	gga	cgg	agg	cgc	agt	tct	cgg	atc	3796
Met	Gly	Arg	Pro	Glu	Glu	Cys	Leu	Gly	Arg	Arg	Arg	Ser	Ser	Arg	Ile	
	1005					1010					1015					
atg	gag	gag	acc	agt	ggc	atg	gaa	gaa	gag	gaa	gaa	gag	gag	tct	ata	3844
Met	Glu	Glu	Thr	Ser	Gly	Met	Glu	Glu	Glu	Glu	Glu	Glu	Glu	Ser	Ile	
1020					1025					1030					1035	
gca	gct	gtc	cct	ggc	cgc	agg	ggt	cga	aga	gat	gga	gag	gtt	gat	gcc	3892
Ala	Ala	Val	Pro	Gly	Arg	Arg	Gly	Arg	Arg	Asp	Gly	Glu	Val	Asp	Ala	
			1040					1045						1050		
aca	gca	tct	agc	atc	cca	gag	cta	gag	cgc	cag	ata	gaa	aaa	ctc	agc	3940
Thr	Ala	Ser	Ser	Ile	Pro	Glu	Leu	Glu	Arg	Gln	Ile	Glu	Lys	Leu	Ser	
			1055					1060						1065		
aag	cgt	cag	ctt	ttc	ttt	cgc	aaa	aag	ctg	ctt	cac	tca	tcc	cag	atg	3988
Lys	Arg	Gln	Leu	Phe	Phe	Arg	Lys	Lys	Leu	Leu	His	Ser	Ser	Gln	Met	
		1070					1075					1080				
ctt	cgg	gcg	gtc	tcc	ctg	ggt	cag	gac	cgc	tac	aga	cgt	cgc	tac	tgg	4036
Leu	Arg	Ala	Val	Ser	Leu	Gly	Gln	Asp	Arg	Tyr	Arg	Arg	Arg	Tyr	Trp	
		1085				1090					1095					
gta	ttg	ccg	tat	ttg	gct	ggt	atc	ttt	gta	gaa	gga	aca	gag	ggg	aac	4084
Val	Leu	Pro	Tyr	Leu	Ala	Gly	Ile	Phe	Val	Glu	Gly	Thr	Glu	Gly	Asn	
1100					1105					1110					1115	
tta	gtt	cct	gag	gag	gtg	ata	aag	aag	gaa	act	gac	tcc	tta	aaa	gtg	4132
Leu	Val	Pro	Glu	Glu	Val	Ile	Lys	Lys	Glu	Thr	Asp	Ser	Leu	Lys	Val	
				1120					1125					1130		
gca	gcc	cat	gcg	tca	ctc	aac	cct	gcc	ctc	ttc</						

1150	1155	1160	
cga cct cta aaa act aag ccc ggg ttt atg caa cct agg cat ttt aag Arg Pro Leu Lys Thr Lys Pro Gly Phe Met Gln Pro Arg His Phe Lys 1165 1170 1175			4276
tcc cct gtc agg ggt cag gat tca gaa cag ccc cag gcc cag ctt cag Ser Pro Val Arg Gly Gln Asp Ser Glu Gln Pro Gln Ala Gln Leu Gln 1180 1185 1190 1195			4324
cct gag gct cag ctt cat gtt cct gcc cag ccc cag cct cag ctt cag Pro Glu Ala Gln Leu His Val Pro Ala Gln Pro Gln Pro Gln Leu Gln 1200 1205 1210			4372
ctt cag ctt cag tcc cat aag ggg ttc ctg gag caa gaa ggc tcc cct Leu Gln Leu Gln Ser His Lys Gly Phe Leu Glu Gln Glu Gly Ser Pro 1215 1220 1225			4420
ttg tca ctg ggt cag agc cag cat gac ctc agc cag tca gcc ttc ctg Leu Ser Leu Gly Gln Ser Gln His Asp Leu Ser Gln Ser Ala Phe Leu 1230 1235 1240			4468
tct tgg ctg agc cag act cag agc cat agc tcc ctg ttg agc agc tca Ser Trp Leu Ser Gln Thr Gln Ser His Ser Ser Leu Leu Ser Ser Ser 1245 1250 1255			4516
gtc ctc aca cct gat agc agt ccg gga aaa cta gac cca gct cca tca Val Leu Thr Pro Asp Ser Ser Pro Gly Lys Leu Asp Pro Ala Pro Ser 1260 1265 1270 1275			4564
caa ccc ccg gag gag cca gag cct gat gag gca gaa tcc agc cct gat Gln Pro Pro Glu Glu Pro Glu Pro Asp Glu Ala Glu Ser Ser Pro Asp 1280 1285 1290			4612
ctt caa gca ttc tgg ttt aac atc tca gcc cag atg ccc tgc aat gct Leu Gln Ala Phe Trp Phe Asn Ile Ser Ala Gln Met Pro Cys Asn Ala 1295 1300 1305			4660
gcc ccc aca ccg ccc ctt gca gtt tct gag gac caa ccc act ccc tcc Ala Pro Thr Pro Pro Leu Ala Val Ser Glu Asp Gln Pro Thr Pro Ser 1310 1315 1320			4708
cct cag cag ctt gcc tcc tcc aag cca atg aat aga cct agt gct gcc Pro Gln Gln Leu Ala Ser Ser Lys Pro Met Asn Arg Pro Ser Ala Ala 1325 1330 1335			4756
aac cct tgt tct cca gtg cag ttc tct tcc acg ccc ttg gct ggg ttg Asn Pro Cys Ser Pro Val Gln Phe Ser Ser Thr Pro Leu Ala Gly Leu 1340 1345 1350 1355			4804
gcc cct aag agg cga gca gga gac cct gga gaa atg cca cag agt ccc Ala Pro Lys Arg Arg Ala Gly Asp Pro Gly Glu Met Pro Gln Ser Pro 1360 1365 1370			4852
aca ggg ctg gga cag ccc aaa cgg aga ggg aga cct ccc agt aag ttc Thr Gly Leu Gly Gln Pro Lys Arg Arg Gly Arg Pro Pro Ser Lys Phe 1375 1380 1385			4900

ttc aaa cag atg gaa cag cgt tac cta acc cag ctg aca gcc cag cct Phe Lys Gln Met Glu Gln Arg Tyr Leu Thr Gln Leu Thr Ala Gln Pro 1390 1395 1400	4948
gtc cca cct gag atg tgc tca gcc tgg tgg tgg ata cca gat cct gag Val Pro Pro Glu Met Cys Ser Gly Trp Trp Trp Ile Pro Asp Pro Glu 1405 1410 1415	4996
atg ttg gat gcc atg ctc aag gcc cta cac ccc cga ggt atc cgg gag Met Leu Asp Ala Met Leu Lys Ala Leu His Pro Arg Gly Ile Arg Glu 1420 1425 1430 1435	5044
aag gca ctt cac aaa cac ctt aac aag cac agg gac ttc ttg cag gaa Lys Ala Leu His Lys His Leu Asn Lys His Arg Asp Phe Leu Gln Glu 1440 1445 1450	5092
gtc tgc ctg cgg ccc tca gct gac ccc atc ttt gag ccc agg caa cta Val Cys Leu Arg Pro Ser Ala Asp Pro Ile Phe Glu Pro Arg Gln Leu 1455 1460 1465	5140
cct gcc ttt caa gaa ggg att atg agc tgg tcc ccc aaa gag aag aca Pro Ala Phe Gln Glu Gly Ile Met Ser Trp Ser Pro Lys Glu Lys Thr 1470 1475 1480	5188
tac gag aca gac cta gca gtg ctt caa tgg gta gag gag ctg gag cag Tyr Glu Thr Asp Leu Ala Val Leu Gln Trp Val Glu Glu Leu Glu Gln 1485 1490 1495	5236
cgg gtt atc atg tct gat ctg cag att cgg ggc tgg aca tgt cct agc Arg Val Ile Met Ser Asp Leu Gln Ile Arg Gly Trp Thr Cys Pro Ser 1500 1505 1510 1515	5284
cca gac tct acc cgt gaa gac ttg gcc tac tgt gag cac ctc tcc gac Pro Asp Ser Thr Arg Glu Asp Leu Ala Tyr Cys Glu His Leu Ser Asp 1520 1525 1530	5332
tcc cag gag gat atc acc tgg cga ggt ccg ggc agg gag gga ctg gca Ser Gln Glu Asp Ile Thr Trp Arg Gly Pro Gly Arg Glu Gly Leu Ala 1535 1540 1545	5380
cct caa cgt aaa act acc aac cct ttg gac ctg gct gtg atg cgg ctg Pro Gln Arg Lys Thr Thr Asn Pro Leu Asp Leu Ala Val Met Arg Leu 1550 1555 1560	5428
gct gcc ctg gaa caa aat gta aaa cgg cgg tac ctg cgg gag ccc ctc Ala Ala Leu Glu Gln Asn Val Lys Arg Arg Tyr Leu Arg Glu Pro Leu 1565 1570 1575	5476
tgg cca act cat gag gtt gtg ctg gag aaa gcc ctg ctt agc aca cct Trp Pro Thr His Glu Val Val Leu Glu Lys Ala Leu Leu Ser Thr Pro 1580 1585 1590 1595	5524
aat ggt gcc cct gag ggc acc act aca gag ata tca tat gag atc acc Asn Gly Ala Pro Glu Gly Thr Thr Thr Glu Ile Ser Tyr Glu Ile Thr 1600 1605 1610	5572

cct cgc att cgt atc tgg cgc cag acc ctc cag cgg tgc cgg agc gca Pro Arg Ile Arg Ile Trp Arg Gln Thr Leu Gln Arg Cys Arg Ser Ala 1615 1620 1625	5620
gcc cat gtg tgc ttg tgc ctg ggc cat ctg gag agg tcc att gcc tgg Ala His Val Cys Leu Cys Leu Gly His Leu Glu Arg Ser Ile Ala Trp 1630 1635 1640	5668
gag aag tct gtc aac aaa gtg aca tgt cta gtc tgc cgg aag ggt gac Glu Lys Ser Val Asn Lys Val Thr Cys Leu Val Cys Arg Lys Gly Asp 1645 1650 1655	5716
aat gat gag ttt ctt ctg ctt tgt gat ggg tgt gac cgt ggc tgc cac Asn Asp Glu Phe Leu Leu Leu Cys Asp Gly Cys Asp Arg Gly Cys His 1660 1665 1670 1675	5764
att tac tgc cat cgt ccc aag atg gag gct gtc cca gaa gga gat tgg Ile Tyr Cys His Arg Pro Lys Met Glu Ala Val Pro Glu Gly Asp Trp 1680 1685 1690	5812
ttc tgt act gtc tgt ttg gct cag cag gtg gag gga gaa ttc act cag Phe Cys Thr Val Cys Leu Ala Gln Gln Val Glu Gly Glu Phe Thr Gln 1695 1700 1705	5860
aag cct ggt ttc cca aag cgt ggc cag aag cgg aaa agt ggt tat tcg Lys Pro Gly Phe Pro Lys Arg Gly Gln Lys Arg Lys Ser Gly Tyr Ser 1710 1715 1720	5908
ctg aac ttc tca gaa ggt gat ggc cgc cga cgc cgg gta ctg ttg aag Leu Asn Phe Ser Glu Gly Asp Gly Arg Arg Arg Arg Val Leu Leu Lys 1725 1730 1735	5956
ggc cga gaa agc cca gca gca ggg cct cgg tac tcg gaa gaa agg ctc Gly Arg Glu Ser Pro Ala Ala Gly Pro Arg Tyr Ser Glu Glu Arg Leu 1740 1745 1750 1755	6004
tcc ccc tcc aag cgg cgg cga ctc tct atg cgg aac cac cac agt gat Ser Pro Ser Lys Arg Arg Arg Leu Ser Met Arg Asn His His Ser Asp 1760 1765 1770	6052
ctc aca ttt tgc gag att atc ctg atg gag atg gaa tcc cat gat gca Leu Thr Phe Cys Glu Ile Ile Leu Met Glu Met Glu Ser His Asp Ala 1775 1780 1785	6100
gcc tgg cct ttc nta gag cct gtg aac cca cgt ttg gtg agt ggg tac Ala Trp Pro Phe Xaa Glu Pro Val Asn Pro Arg Leu Val Ser Gly Tyr 1790 1795 1800	6148
cgg cgc atc atc aaa aat cct atg gat ttt tcc acc atg cgg gag cgg Arg Arg Ile Ile Lys Asn Pro Met Asp Phe Ser Thr Met Arg Glu Arg 1805 1810 1815	6196
ctg ctc agg gga ggg tac acc agc tca gag gag ttt gcg gct gat gcc Leu Leu Arg Gly Gly Tyr Thr Ser Ser Glu Glu Phe Ala Ala Asp Ala 1820 1825 1830 1835	6244
ctc ctg gta ttt gac aac tgc cag act ttc aac gag gat gac tct gaa	6292

Leu Leu Val Phe Asp Asn Cys Gln Thr Phe Asn Glu Asp Asp Ser Glu
 1840 1845 1850

gta ggc aag gct ggg cac atc atg cgc cgc ttc ttc gag agc cgc tgg 6340
 Val Gly Lys Ala Gly His Ile Met Arg Arg Phe Phe Glu Ser Arg Trp
 1855 1860 1865

gag gag ttt tat cag gga aaa cag gcc aat ctg tgaggcaagg gaggtgggga 6393
 Glu Glu Phe Tyr Gln Gly Lys Gln Ala Asn Leu
 1870 1875

gtcaccttgt	ggcatctccc	cccaccttcc	aaacaaaaac	ctgccatttt	cacctgctga	6453
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Ile Lys Asp Lys Lys Pro Arg Lys Lys Ala Met Glu Ser Ser Ser Asn
35 40 45
Ser Asp Ser Asp Ser Gly Thr Ser Ser Asp Thr Ser Ser Glu Gly Ile
50 55 60
Ser Ser Ser Asp Ser Asp Asp Leu Glu Glu Asp Glu Glu Glu Asp
65 70 75 80
Gln Ser Ile Glu Glu Ser Glu Asp Asp Asp Ser Asp Ser Glu Ser Glu
85 90 95
Ala Gln His Lys Ser Asn Asn Gln Val Leu Leu His Gly Ile Ser Asp
100 105 110
Pro Lys Ala Asp Gly Gln Lys Ala Thr Glu Lys Ala Gln Glu Lys Arg
115 120 125
Ile His Gln Pro Leu Pro Leu Ala Phe Glu Ser Gln Thr His Ser Phe
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Gln Ser Gln Gln Lys Gln Pro Gln Val Leu Ser Gln Gln Leu Pro Phe
145 150 155 160
Ile Phe Gln Ser Ser Gln Ala Lys Glu Glu Ser Val Asn Lys His Thr
165 170 175
Ser Val Ile Gln Ser Thr Gly Leu Val Ser Asn Val Lys Pro Leu Ser
180 185 190
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Ser Pro Asp Val Leu Lys Ala Gly Asn Lys Asn Thr Ser Glu Glu Ser
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Ser Leu Leu Thr Ser Glu Leu Arg Ser Lys Arg Glu Gln Tyr Lys Gln
225 230 235 240
Ala Phe Pro Ser Gln Leu Lys Lys Gln Glu Ser Ser Lys Ser Leu Lys
245 250 255
Lys Val Ile Ala Ala Leu Ser Asn Pro Lys Ala Thr Ser Ser Ser Pro
260 265 270
Ala His Pro Lys Gln Thr Leu Glu Asn Asn His Pro Asn Pro Phe Leu
275 280 285

Thr	Asn	Ala	Leu	Leu	Gly	Asn	His	Gln	Pro	Asn	Gly	Val	Ile	Gln	Ser	290	295	300
Val	Ile	Gln	Glu	Ala	Pro	Leu	Ala	Leu	Thr	Thr	Lys	Thr	Lys	Met	Gln	305	310	315
Ser	Lys	Ile	Asn	Glu	Asn	Ile	Ala	Ala	Ala	Ser	Ser	Thr	Pro	Phe	Ser	325	330	335
Ser	Pro	Val	Asn	Leu	Ser	Thr	Ser	Gly	Arg	Arg	Thr	Pro	Gly	Asn	Gln	340	345	350
Thr	Pro	Val	Met	Pro	Ser	Ala	Ser	Pro	Ile	Leu	His	Ser	Gln	Gly	Lys	355	360	365
Glu	Lys	Ala	Val	Ser	Asn	Asn	Val	Asn	Pro	Val	Lys	Thr	Gln	His	His	370	375	380
Ser	His	Pro	Ala	Lys	Ser	Leu	Val	Glu	Gln	Phe	Arg	Gly	Thr	Asp	Ser	385	390	395
Asp	Ile	Pro	Ser	Ser	Lys	Asp	Ser	Glu	Asp	Ser	Asn	Glu	Asp	Glu	Glu	405	410	415
Glu	Asp	Asp	Glu	Glu	Glu	Asp	Glu	Glu	Asp	Asp	Glu	Asp	Asp	Glu	Ser	420	425	430
Asp	Asp	Ser	Gln	Ser	Glu	Ser	Asp	Ser	Asn	Ser	Glu	Ser	Asp	Thr	Glu	435	440	445
Gly	Ser	Glu	Glu	Glu	Asp	Asp	Asp	Asp	Lys	Asp	Gln	Asp	Glu	Ser	Asp	450	455	460
Ser	Asp	Thr	Glu	Gly	Glu	Lys	Thr	Ser	Met	Lys	Leu	Asn	Lys	Thr	Thr	465	470	475
Ser	Ser	Val	Lys	Ser	Pro	Ser	Met	Ser	Leu	Thr	Gly	His	Ser	Thr	Pro	485	490	495
Arg	Asn	Leu	His	Ile	Ala	Lys	Ala	Pro	Gly	Ser	Ala	Pro	Ala	Ala	Leu	500	505	510
Cys	Ser	Glu	Ser	Gln	Ser	Pro	Ala	Phe	Leu	Gly	Thr	Ser	Ser	Ser	Thr	515	520	525
Leu	Thr	Ser	Ser	Pro	His	Ser	Gly	Thr	Ser	Lys	Arg	Arg	Arg	Val	Thr	530	535	540
Asp	Glu	Arg	Glu	Leu	Arg	Ile	Pro	Leu	Glu	Tyr	Gly	Trp	Gln	Arg	Glu	545	550	555
Thr	Arg	Ile	Arg	Asn	Phe	Gly	Gly	Arg	Leu	Gln	Gly	Glu	Val	Ala	Tyr	565	570	575
Tyr	Ala	Pro	Cys	Gly	Lys	Lys	Leu	Arg	Gln	Tyr	Pro	Glu	Val	Ile	Lys	580	585	590
Tyr	Leu	Ser	Arg	Asn	Gly	Ile	Met	Asp	Ile	Ser	Arg	Asp	Asn	Phe	Ser	595	600	605
Phe	Ser	Ala	Lys	Ile	Arg	Val	Gly	Asp	Phe	Tyr	Glu	Ala	Arg	Asp	Gly	610	615	620
Pro	Gln	Glu	Met	Gln	Trp	Cys	Leu	Leu	Lys	Glu	Glu	Asp	Val	Ile	Pro	625	630	635
Arg	Ile	Arg	Ala	Met	Glu	Gly	Arg	Arg	Gly	Arg	Pro	Pro	Asn	Pro	Asp	645	650	655
Arg	Gln	Arg	Ala	Arg	Glu	Glu	Ser	Arg	Met	Arg	Arg	Arg	Lys	Gly	Arg	660	665	670
Pro	Pro	Asn	Val	Gly	Asn	Ala	Glu	Phe	Leu	Asp	Asn	Ala	Asp	Ala	Lys	675	680	685
Leu	Leu	Arg	Lys	Leu	Gln	Ala	Gln	Glu	Ile	Ala	Arg	Gln	Ala	Ala	Gln	690	695	700
Ile	Lys	Leu	Leu	Arg	Lys	Leu	Gln	Lys	Gln	Glu	Gln	Ala	Arg	Val	Ala	705	710	715
Lys	Glu	Ala	Lys	Lys	Gln	Gln	Ala	Ile	Met	Ala	Ala	Glu	Glu	Lys	Arg	725	730	735
Lys	Gln	Lys	Glu	Gln	Ile	Lys	Ile	Met	Lys	Gln	Gln	Glu	Lys	Ile	Lys			

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Arg	Ile	Gln	Gln	Ile	Arg	Met	Glu	Lys	Glu	Leu	Arg	Ala	Gln	Gln	Ile
755					760					765					
Leu	Glu	Ala	Lys	Lys	Lys	Lys	Lys	Glu	Glu	Ala	Ala	Asn	Ala	Lys	Leu
770					775					780					
Leu	Glu	Ala	Glu	Lys	Arg	Ile	Lys	Glu	Lys	Glu	Met	Arg	Arg	Gln	Gln
785					790					795					
Ala	Val	Leu	Leu	Lys	His	Gln	Glu	Arg	Glu	Arg	Arg	Arg	Gln	His	Met
805					810					815					
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820					825					830					
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Lys	Leu	Glu	Gln	Arg	Arg	Leu	Glu	Leu	Glu	Met	Ala	Lys	Glu	Leu	Lys
850					855					860					
Lys	Pro	Asn	Glu	Asp	Met	Cys	Leu	Ala	Asp	Gln	Lys	Pro	Leu	Pro	Glu
865					870					875					
Leu	Pro	Arg	Ile	Pro	Gly	Leu	Val	Leu	Ser	Gly	Ser	Thr	Phe	Ser	Asp
885					890					895					
Cys	Leu	Met	Val	Val	Gln	Phe	Leu	Arg	Asn	Phe	Gly	Lys	Val	Leu	Gly
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Phe	Asp	Val	Asn	Ile	Asp	Val	Pro	Asn	Leu	Ser	Val	Leu	Gln	Glu	Gly
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Arg	Leu	Leu	Ser	Ala	Ala	Val	Cys	Asp	Pro	Gly	Leu	Ile	Thr	Gly	Tyr
945					950					955					
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Arg	Asp	Asn	Val	Ser	Glu	Ile	Leu	Gln	Ile	Phe	Met	Glu	Ala	His	Cys
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Gly	Gln	Thr	Glu	Leu	Thr	Glu	Ser	Leu	Lys	Thr	Lys	Ala	Phe	Gln	Ala
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His	Thr	Pro	Ala	Gln	Lys	Ala	Ser	Val	Leu	Ala	Phe	Leu	Ile	Asn	Glu
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Tyr	Met	Ser	Asn	Leu	Arg	Arg	Asp	Lys	Trp	Val	Val	Glu	Gly	Lys	Leu
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Ala Pro Gly Leu Arg Val Trp Arg Arg Ala Leu Ser Glu Ala Arg Ser		1695
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	1715	1720
Trp Glu Lys Ser Ile Met Lys Val Tyr Cys Gln Ile Cys Arg Lys Gly		1725
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His Thr Tyr Cys His Arg Pro Lys Ile Thr Thr Ile Pro Asp Gly Asp		1760
	1765	1770
Trp Phe Cys Pro Ala Cys Ile Ala Lys Ala Ser Gly Gln Thr Leu Lys		1775
	1780	1785
Ile Lys Lys Leu His Val Lys Gly Lys Lys Thr Asn Glu Ser Lys Lys		1790
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Phe Asp Asn Cys Glu Thr Phe Asn Glu Asp Asp Ser Asp Ile Gly Arg		1935
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tcttctctac acttttttagt cttagaattt ttgtgtgttt ttatttacc taacctgtca	180	
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ggaagtaata catcatctgt aattggtatc aacacatctg tactatccac tactgcttca 360
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 Lys Cys Asn Gln Glu Gln Ser Lys Asn Gln Pro Leu Asp Ala Arg Val
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gac aaa atc aaa gat aag aaa cca agg aag aaa gca atg gaa agt tct 504
 Asp Lys Ile Lys Asp Lys Lys Pro Arg Lys Lys Ala Met Glu Ser Ser
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agc aac agt gat agt gat tca ggc aca tca tca gac acc tca agt gaa 552
 Ser Asn Ser Asp Ser Asp Ser Gly Thr Ser Ser Asp Thr Ser Ser Glu
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ggc att agt agc agt gat tca gat gat cta gaa gaa gat gaa gaa gaa 600
 Gly Ile Ser Ser Ser Asp Ser Asp Asp Leu Glu Glu Asp Glu Glu Glu
 65 70 75

gaa gat caa agt att gaa gaa agt gaa gat gat gat tct gat tca gag 648
 Glu Asp Gln Ser Ile Glu Glu Ser Glu Asp Asp Asp Ser Asp Ser Glu
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agt gaa gca caa cat aaa agt aac aac cag gtg cta tta cat ggt att 696
 Ser Glu Ala Gln His Lys Ser Asn Asn Gln Val Leu Leu His Gly Ile
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tca gac cca aaa gca gat gga cag aaa gca act gaa aaa gcc cag gaa 744
 Ser Asp Pro Lys Ala Asp Gly Gln Lys Ala Thr Glu Lys Ala Gln Glu
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 130 135 140

tca ttc caa tcc cag cag aag cag cct cag gtt ttg tca cag cag ctt 840
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 145 150 155

cca ttt att ttc caa agc tct cag gca aag gag gaa tct gtg aac aaa 888
 Pro Phe Ile Phe Gln Ser Ser Gln Ala Lys Glu Glu Ser Val Asn Lys
 160 165 170

cac acc agt gta ata cag tct acg gga ttg gtg tcc aat gtg aaa cct 936
 His Thr Ser Val Ile Gln Ser Thr Gly Leu Val Ser Asn Val Lys Pro
 175 180 185 190

tta tct ttg gta aat caa gcc aaa aag gaa act tac atg aaa ctc ata 984
 Leu Ser Leu Val Asn Gln Ala Lys Lys Glu Thr Tyr Met Lys Leu Ile
 195 200 205

gtt cct tct cct gat gtt ctt aaa gca ggg aat aaa aat acc tct gaa 1032
 Val Pro Ser Pro Asp Val Leu Lys Ala Gly Asn Lys Asn Thr Ser Glu
 210 215 220

gaa tct agt tta ttg acc agt gaa ttg aga tcc aaa cgg gaa caa tat	1080
Glu Ser Ser Leu Leu Thr Ser Glu Leu Arg Ser Lys Arg Glu Gln Tyr	
225 230 235	
aaa cag gca ttc cca tca cag tta aag aaa caa gag tca tcg aag agc	1128
Lys Gln Ala Phe Pro Ser Gln Leu Lys Lys Gln Glu Ser Ser Lys Ser	
240 245 250	
ctg aag aag gtt att gca gct ttg tca aat cca aaa gca acc tct agt	1176
Leu Lys Lys Val Ile Ala Ala Leu Ser Asn Pro Lys Ala Thr Ser Ser	
255 260 265 270	
tca cca gca cat cca aaa caa aca tta gaa aac aac cac cca aat cca	1224
Ser Pro Ala His Pro Lys Gln Thr Leu Glu Asn Asn His Pro Asn Pro	
275 280 285	
ttc ttg aca aat gca ctt tta ggt aat cac caa cca aat gga gtt att	1272
Phe Leu Thr Asn Ala Leu Leu Gly Asn His Gln Pro Asn Gly Val Ile	
290 295 300	
caa agt gtc att caa gaa gct cct cta gca ctt act acc aaa act aaa	1320
Gln Ser Val Ile Gln Glu Ala Pro Leu Ala Leu Thr Thr Lys Thr Lys	
305 310 315	
atg cag agc aag att aat gaa aac att gct gct gca agt agc acc cct	1368
Met Gln Ser Lys Ile Asn Glu Asn Ile Ala Ala Ala Ser Ser Thr Pro	
320 325 330	
ttt tcc tca cct gta aat ctg agt aca agt ggg aga aga acc cct ggc	1416
Phe Ser Ser Pro Val Asn Leu Ser Thr Ser Gly Arg Arg Thr Pro Gly	
335 340 345 350	
aat cag aca cct gta atg cct tct gcc tct ccc atc ctg cat agt caa	1464
Asn Gln Thr Pro Val Met Pro Ser Ala Ser Pro Ile Leu His Ser Gln	
355 360 365	
ggg aag gaa aaa gca gtt agc aat aat gta aac cca gta aaa aca cag	1512
Gly Lys Glu Lys Ala Val Ser Asn Asn Val Asn Pro Val Lys Thr Gln	
370 375 380	
cat cac tcc cat cct gca aaa tct tta gtg gaa caa ttc aga gga aca	1560
His His Ser His Pro Ala Lys Ser Leu Val Glu Gln Phe Arg Gly Thr	
385 390 395	
gat tca gac att ccc agt agt aaa gat tct gaa gat tca aat gag gat	1608
Asp Ser Asp Ile Pro Ser Ser Lys Asp Ser Glu Asp Ser Asn Glu Asp	
400 405 410	
gaa gag gaa gat gat gaa gaa gaa gat gag gaa gat gat gaa gat gat	1656
Glu Glu Glu Asp Asp Glu Glu Glu Asp Glu Glu Asp Asp Glu Asp Asp	
415 420 425 430	
gaa tct gat gac agc caa tca gaa tca gat agt aat tca gaa tca gat	1704
Glu Ser Asp Asp Ser Gln Ser Glu Ser Asp Ser Asn Ser Glu Ser Asp	
435 440 445	
aca gaa gga tca gaa gaa gaa gat gat gat gat aaa gac caa gat gaa	1752

Thr	Glu	Gly	Ser	Glu	Glu	Glu	Asp	Asp	Asp	Asp	Lys	Asp	Gln	Asp	Glu	
			450					455					460			
tca	gat	agt	gat	act	gaa	gga	gag	aaa	act	tca	atg	aaa	ctg	aat	aaa	1800
Ser	Asp	Ser	Asp	Thr	Glu	Gly	Glu	Lys	Thr	Ser	Met	Lys	Leu	Asn	Lys	
		465					470					475				
aca	act	tcc	tct	gtc	aaa	agc	cct	tcc	atg	agt	ctc	aca	ggt	cac	tca	1848
Thr	Thr	Ser	Ser	Val	Lys	Ser	Pro	Ser	Met	Ser	Leu	Thr	Gly	His	Ser	
	480					485					490					
aca	cct	cgt	aac	ctc	cac	ata	gca	aaa	gcc	cca	ggc	tct	gct	cct	gct	1896
Thr	Pro	Arg	Asn	Leu	His	Ile	Ala	Lys	Ala	Pro	Gly	Ser	Ala	Pro	Ala	
495					500					505					510	
gcc	tta	tgt	tct	gaa	tcc	cag	tca	cct	gct	ttt	ctt	ggt	aca	tct	tct	1944
Ala	Leu	Cys	Ser	Glu	Ser	Gln	Ser	Pro	Ala	Phe	Leu	Gly	Thr	Ser	Ser	
				515					520					525		
tcc	aca	ctt	act	tca	agc	cca	cac	tct	ggc	act	tcc	aaa	aga	aga	aga	1992
Ser	Thr	Leu	Thr	Ser	Ser	Pro	His	Ser	Gly	Thr	Ser	Lys	Arg	Arg	Arg	
			530					535					540			
gta	aca	gat	gaa	cgt	gaa	ctg	cgt	att	cca	ttg	gaa	tat	ggc	tgg	cag	2040
Val	Thr	Asp	Glu	Arg	Glu	Leu	Arg	Ile	Pro	Leu	Glu	Tyr	Gly	Trp	Gln	
		545					550					555				
aga	gag	aca	aga	ata	aga	aac	ttt	gga	ggg	cgc	ctt	caa	gga	gaa	gta	2088
Arg	Glu	Thr	Arg	Ile	Arg	Asn	Phe	Gly	Gly	Arg	Leu	Gln	Gly	Glu	Val	
	560					565					570					
gca	tat	tat	gct	cca	tgt	gga	aag	aaa	ctt	agg	cag	tac	cct	gaa	gta	2136
Ala	Tyr	Tyr	Ala	Pro	Cys	Gly	Lys	Lys	Leu	Arg	Gln	Tyr	Pro	Glu	Val	
575					580					585					590	
ata	aag	tat	ctc	agc	aga	aat	gga	ata	atg	gat	atc	tca	agg	gac	aat	2184
Ile	Lys	Tyr	Leu	Ser	Arg	Asn	Gly	Ile	Met	Asp	Ile	Ser	Arg	Asp	Asn	
				595					600					605		
ttc	agc	ttc	agt	gca	aaa	ata	aga	gtg	ggt	gac	ttc	tat	gaa	gcc	aga	2232
Phe	Ser	Phe	Ser	Ala	Lys	Ile	Arg	Val	Gly	Asp	Phe	Tyr	Glu	Ala	Arg	
			610					615					620			
gat	gga	ccg	cag	gaa	atg	cag	tgg	tgt	ctt	ttg	aaa	gaa	gag	gat	gtc	2280
Asp	Gly	Pro	Gln	Glu	Met	Gln	Trp	Cys	Leu	Leu	Lys	Glu	Glu	Asp	Val	
		625					630					635				
att	cct	cgt	atc	agg	gca	atg	gaa	ggt	cgt	aga	gga	aga	cca	cca	aat	2328
Ile	Pro	Arg	Ile	Arg	Ala	Met	Glu	Gly	Arg	Arg	Gly	Arg	Pro	Pro	Asn	
	640					645					650					
cca	gat	aga	caa	cga	gca	aga	gag	gaa	tcc	agg	atg	aga	cgt	cgg	aaa	2376
Pro	Asp	Arg	Gln	Arg	Ala	Arg	Glu	Glu	Ser	Arg	Met	Arg	Arg	Arg	Lys	
655					660					665					670	
ggt	cga	cct	cca	aat	gtt	ggc	aat	gct	gaa	ttc	cta	gat	aac	gca	gat	2424
Gly	Arg	Pro	Pro	Asn	Val	Gly	Asn	Ala	Glu	Phe	Leu	Asp	Asn	Ala	Asp	

675										680										685										
gca aag ttg cta aga aaa ctg caa gct caa gaa ata gcc agg caa gca	Ala Lys Leu Leu Arg Lys Leu Gln Ala Gln Glu Ile Ala Arg Gln Ala	690	695	700	2472																									
gca caa ata aag ctt ttg aga aaa ctt caa aag cag gaa cag gct cgg	Ala Gln Ile Lys Leu Leu Arg Lys Leu Gln Lys Gln Glu Gln Ala Arg	705	710	715	2520																									
gtt gct aaa gaa gcc aaa aaa caa caa gca ata atg gct gct gag gag	Val Ala Lys Glu Ala Lys Lys Gln Gln Ala Ile Met Ala Ala Glu Glu	720	725	730	2568																									
aag cgg aag caa aaa gaa cag ata aag att atg aaa cag cag gaa aaa	Lys Arg Lys Gln Lys Glu Gln Ile Lys Ile Met Lys Gln Gln Glu Lys	735	740	745	750	2616																								
att aag aga ata cag caa atc aga atg gaa aaa gaa ctt cga gct cag	Ile Lys Arg Ile Gln Gln Ile Arg Met Glu Lys Glu Leu Arg Ala Gln	755	760	765	2664																									
caa att cta gag gct aaa aag aaa aag aag gaa gaa gcg gca aat gcc	Gln Ile Leu Glu Ala Lys Lys Lys Lys Lys Glu Glu Ala Ala Asn Ala	770	775	780	2712																									
aaa tta ttg gag gcc gag aaa cga ata aag gaa aaa gaa atg aga aga	Lys Leu Leu Glu Ala Glu Lys Arg Ile Lys Glu Lys Glu Met Arg Arg	785	790	795	2760																									
caa caa gct gtt ctt ctg aaa cat cag gaa cga gag cga agg cga caa	Gln Gln Ala Val Leu Leu Lys His Gln Glu Arg Glu Arg Arg Arg Gln	800	805	810	2808																									
cac atg atg ctt atg aaa gct atg gaa gct cgt aaa aaa gca gaa gaa	His Met Met Leu Met Lys Ala Met Glu Ala Arg Lys Lys Ala Glu Glu	815	820	825	830	2856																								
aaa gag cgg ttg aaa caa gaa aaa cgt gat gag aaa aga tta aat aaa	Lys Glu Arg Leu Lys Gln Glu Lys Arg Asp Glu Lys Arg Leu Asn Lys	835	840	845	2904																									
gag cgt aaa cta gag cag cga aga tta gaa tta gaa atg gca aag gaa	Glu Arg Lys Leu Glu Gln Arg Arg Leu Glu Leu Glu Met Ala Lys Glu	850	855	860	2952																									
cta aag aag cct aat gaa gac atg tgc tta gca gac caa aag cct ttg	Leu Lys Lys Pro Asn Glu Asp Met Cys Leu Ala Asp Gln Lys Pro Leu	865	870	875	3000																									
cca gag ttg cct cgt att cca gga ctt gtt ctc tct gga agt aca ttt	Pro Glu Leu Pro Arg Ile Pro Gly Leu Val Leu Ser Gly Ser Thr Phe	880	885	890	3048																									
tca gac tgt ctc atg gtg gtg cag ttc tta cga aac ttt ggt aaa gtt	Ser Asp Cys Leu Met Val Val Gln Phe Leu Arg Asn Phe Gly Lys Val	895	900	905	910	3096																								

ttg ggc ttt gat gtg aat att gat gtt cca aac ctg agt gtt ctt caa Leu Gly Phe Asp Val Asn Ile Asp Val Pro Asn Leu Ser Val Leu Gln 915 920 925	3144
gag gga ttg cta aat ata ggg gac agc atg ggt gaa gta caa gac ttg Glu Gly Leu Leu Asn Ile Gly Asp Ser Met Gly Glu Val Gln Asp Leu 930 935 940	3192
ctt gtg agg ctc ctc tca gct gct gta tgt gat cca ggt cta ata aca Leu Val Arg Leu Leu Ser Ala Ala Val Cys Asp Pro Gly Leu Ile Thr 945 950 955	3240
gga tac aag gct aaa aca gct ctt gga gaa cat ttg ctg aat gtt ggt Gly Tyr Lys Ala Lys Thr Ala Leu Gly Glu His Leu Leu Asn Val Gly 960 965 970	3288
gtg aat cga gac aat gtt tcc gag att tta cag ata ttt atg gaa gcc Val Asn Arg Asp Asn Val Ser Glu Ile Leu Gln Ile Phe Met Glu Ala 975 980 985 990	3336
cac tgt gga caa act gag ctt act gaa agt ctg aag acc aaa gct ttt His Cys Gly Gln Thr Glu Leu Thr Glu Ser Leu Lys Thr Lys Ala Phe 995 1000 1005	3384
cag gct cac act cca gca cag aaa gct tca gtc ctg gct ttc ctg atc Gln Ala His Thr Pro Ala Gln Lys Ala Ser Val Leu Ala Phe Leu Ile 1010 1015 1020	3432
aat gaa ctg gca tgc agc aag agt gtg gtc agt gaa atc gac aag aac Asn Glu Leu Ala Cys Ser Lys Ser Val Val Ser Glu Ile Asp Lys Asn 1025 1030 1035	3480
att gat tat atg tca aac ttg agg aga gat aaa tgg gtg gta gaa ggt Ile Asp Tyr Met Ser Asn Leu Arg Arg Asp Lys Trp Val Val Glu Gly 1040 1045 1050	3528
aaa ctc cgc aag ctc aga atc att cat gct aag aaa aca ggc aaa aga Lys Leu Arg Lys Leu Arg Ile Ile His Ala Lys Lys Thr Gly Lys Arg 1055 1060 1065 1070	3576
gac act tca ggt ggc att gat ctg gga gaa gag cag cat ccc ttg ggc Asp Thr Ser Gly Gly Ile Asp Leu Gly Glu Glu Gln His Pro Leu Gly 1075 1080 1085	3624
aca ccc act cca gga cgc aag cga aga agg aag gga gga gac agt gat Thr Pro Thr Pro Gly Arg Lys Arg Arg Arg Lys Gly Gly Asp Ser Asp 1090 1095 1100	3672
tat gac gat gat gat gac gat gac agt gat gac caa ggg gat gaa gat Tyr Asp Asp Asp Asp Asp Asp Asp Ser Asp Asp Gln Gly Asp Glu Asp 1105 1110 1115	3720
gat gag gat gaa gaa gat aag gaa gac caa aaa gga aaa aag act gat Asp Glu Asp Glu Glu Asp Lys Glu Asp Gln Lys Gly Lys Lys Thr Asp 1120 1125 1130	3768

atc tgt gaa gat gag gat gaa ggt gac caa gca gca agt gtt gaa gag Ile Cys Glu Asp Glu Asp Glu Gly Asp Gln Ala Ala Ser Val Glu Glu 1135 1140 1145 1150	3816
ctg gaa aaa cag att gaa aaa ctg agt aaa caa cag agt cag tac aga Leu Glu Lys Gln Ile Glu Lys Leu Ser Lys Gln Gln Ser Gln Tyr Arg 1155 1160 1165	3864
agg aag ctc ttt gat gcg tct cac tca ttg cgt tca gtg atg ttt ggc Arg Lys Leu Phe Asp Ala Ser His Ser Leu Arg Ser Val Met Phe Gly 1170 1175 1180	3912
cca gat cgt tac aga cgc cgg tac tgg att ctt ccc cga tgt ggg ggg Pro Asp Arg Tyr Arg Arg Arg Tyr Trp Ile Leu Pro Arg Cys Gly Gly 1185 1190 1195	3960
att ttt gta gaa ggc atg gag agt ggt gaa gga cta gaa gaa att gca Ile Phe Val Glu Gly Met Glu Ser Gly Glu Gly Leu Glu Glu Ile Ala 1200 1205 1210	4008
aaa gaa aga gaa aaa ctg aaa aag gca gaa agt gtc cag atc aaa gaa Lys Glu Arg Glu Lys Leu Lys Lys Ala Glu Ser Val Gln Ile Lys Glu 1215 1220 1225 1230	4056
gaa atg ttt gag act tct ggg gac agt tta aat tgt tca aat aca gat Glu Met Phe Glu Thr Ser Gly Asp Ser Leu Asn Cys Ser Asn Thr Asp 1235 1240 1245	4104
cac tgt gaa caa aag gaa gat ctt aaa gaa aaa gat aac aca aat cta His Cys Glu Gln Lys Glu Asp Leu Lys Glu Lys Asp Asn Thr Asn Leu 1250 1255 1260	4152
ttc ctt cag aaa cct ggc tct ttt tcc aaa tta agc aag ctt ttg gaa Phe Leu Gln Lys Pro Gly Ser Phe Ser Lys Leu Ser Lys Leu Leu Glu 1265 1270 1275	4200
gta gct aag atg cct cct gag tca gag gtt atg acc ccc aaa cca aat Val Ala Lys Met Pro Pro Glu Ser Glu Val Met Thr Pro Lys Pro Asn 1280 1285 1290	4248
gct ggt gca aat ggg tgc acg ttg tct tat cag aac agt gga aaa cat Ala Gly Ala Asn Gly Cys Thr Leu Ser Tyr Gln Asn Ser Gly Lys His 1295 1300 1305 1310	4296
tca ctg ggc agc gtt cag tca aca gca acg caa agc aat gtg gaa aag Ser Leu Gly Ser Val Gln Ser Thr Ala Thr Gln Ser Asn Val Glu Lys 1315 1320 1325	4344
gca gac tct aat aat ctg ttt aat act ggt tca agt ggt cca ggg aag Ala Asp Ser Asn Asn Leu Phe Asn Thr Gly Ser Ser Gly Pro Gly Lys 1330 1335 1340	4392
ttc tac agt cct ctc ccc aat gac cag tta cta aaa acg ctg act gaa Phe Tyr Ser Pro Leu Pro Asn Asp Gln Leu Leu Lys Thr Leu Thr Glu 1345 1350 1355	4440
aag aat aga caa tgg ttt agt ctt ttg cca cga aca ccc tgt gat gac	4488

Lys	Asn	Arg	Gln	Trp	Phe	Ser	Leu	Leu	Pro	Arg	Thr	Pro	Cys	Asp	Asp		
1360						1365					1370						
act	tca	ctt	act	cat	gcc	gat	atg	tca	act	gct	tct	ttg	gtg	act	cct	4536	
Thr	Ser	Leu	Thr	His	Ala	Asp	Met	Ser	Thr	Ala	Ser	Leu	Val	Thr	Pro		
1375					1380					1385					1390		
cag	tct	cag	cca	cca	tct	aag	tca	cct	tca	cct	acc	cca	gct	cct	ctt	4584	
Gln	Ser	Gln	Pro	Pro	Ser	Lys	Ser	Pro	Ser	Pro	Thr	Pro	Ala	Pro	Leu		
					1395					1400					1405		
gga	tct	tct	gct	cag	aat	cct	gtt	ggc	tta	aat	cca	ttt	gct	tta	tca	4632	
Gly	Ser	Ser	Ala	Gln	Asn	Pro	Val	Gly	Leu	Asn	Pro	Phe	Ala	Leu	Ser		
					1410					1415					1420		
cct	ctt	cag	gtg	aaa	ggg	gga	gta	tct	atg	atg	gga	ctt	cag	ttt	tgt	4680	
Pro	Leu	Gln	Val	Lys	Gly	Gly	Val	Ser	Met	Met	Gly	Leu	Gln	Phe	Cys		
					1425										1435		
gga	tgg	ccc	act	ggg	gtg	gtt	act	tct	aat	att	cca	ttt	aca	tta	tct	4728	
Gly	Trp	Pro	Thr	Gly	Val	Val	Thr	Ser	Asn	Ile	Pro	Phe	Thr	Leu	Ser		
															1450		
gta	cct	agt	cta	gga	tcg	ggg	tta	ggg	tta	tca	gaa	gga	aat	ggg	aat	4776	
Val	Pro	Ser	Leu	Gly	Ser	Gly	Leu	Gly	Leu	Ser	Glu	Gly	Asn	Gly	Asn		
1455						1460									1470		
tca	ttc	ttg	act	tcc	aat	gtt	gct	tca	agt	aaa	agt	gaa	tct	cca	gta	4824	
Ser	Phe	Leu	Thr	Ser	Asn	Val	Ala	Ser	Ser	Lys	Ser	Glu	Ser	Pro	Val		
						1475									1485		
cca	cag	aat	gaa	aag	gcc	act	tca	gct	caa	cct	gca	gct	gtt	gaa	gta	4872	
Pro	Gln	Asn	Glu	Lys	Ala	Thr	Ser	Ala	Gln	Pro	Ala	Ala	Val	Glu	Val		
						1490									1500		
gca	aaa	cca	gta	gat	ttt	cct	agt	cca	aaa	cct	att	cca	gaa	gaa	atg	4920	
Ala	Lys	Pro	Val	Asp	Phe	Pro	Ser	Pro	Lys	Pro	Ile	Pro	Glu	Glu	Met		
															1515		
cag	ttt	ggg	tgg	tgg	aga	att	att	gac	cca	gag	gac	cta	aaa	gct	ttg	4968	
Gln	Phe	Gly	Trp	Trp	Arg	Ile	Ile	Asp	Pro	Glu	Asp	Leu	Lys	Ala	Leu		
															1530		
ctc	aaa	gtg	ctg	cat	ctc	aga	gga	ata	aga	gaa	aag	gca	tta	caa	aaa	5016	
Leu	Lys	Val	Leu	His	Leu	Arg	Gly	Ile	Arg	Glu	Lys	Ala	Leu	Gln	Lys		
1535															1550		
caa	att	cag	aaa	cat	ttg	gat	tat	att	act	caa	gcc	tgc	ctc	aag	aat	5064	
Gln	Ile	Gln	Lys	His	Leu	Asp	Tyr	Ile	Thr	Gln	Ala	Cys	Leu	Lys	Asn		
															1565		
aag	gat	gtt	gct	att	att	gaa	ctg	aat	gaa	aat	gaa	gaa	aac	caa	gta	5112	
Lys	Asp	Val	Ala	Ile	Ile	Glu	Leu	Asn	Glu	Asn	Glu	Glu	Asn	Gln	Val		
															1580		
act	cga	gat	att	gtg	gag	aac	tgg	tca	gta	gaa	gaa	caa	gca	atg	gaa	5160	
Thr	Arg	Asp	Ile	Val	Glu	Asn	Trp	Ser	Val	Glu	Glu	Gln	Ala	Met	Glu		

1585	1590	1595	
atg gat ttg agt gtc ctt caa cag gta gaa gat cta gaa agg aga gtt Met Asp Leu Ser Val Leu Gln Gln Val Glu Asp Leu Glu Arg Arg Val 1600 1605 1610			5208
gca tcc gca agt ttg caa gtg aag ggt tgg atg tgt cca gag cct gca Ala Ser Ala Ser Leu Gln Val Lys Gly Trp Met Cys Pro Glu Pro Ala 1615 1620 1625 1630			5256
tca gaa agg gag gac ttg gta tat ttt gaa cat aaa tca ttt act aaa Ser Glu Arg Glu Asp Leu Val Tyr Phe Glu His Lys Ser Phe Thr Lys 1635 1640 1645			5304
ttg tgc aag gag cat gat gga gaa ttt act ggc gaa gac gaa agc agt Leu Cys Lys Glu His Asp Gly Glu Phe Thr Gly Glu Asp Glu Ser Ser 1650 1655 1660			5352
gca cat gca cta gaa cgg aag agt gac aac ccc cta gat ata gct gtt Ala His Ala Leu Glu Arg Lys Ser Asp Asn Pro Leu Asp Ile Ala Val 1665 1670 1675			5400
acc agg ctg gct gat ttg gag cgg aac att gaa aga aga att gag gaa Thr Arg Leu Ala Asp Leu Glu Arg Asn Ile Glu Arg Arg Ile Glu Glu 1680 1685 1690			5448
gat att gct cca ggg ctc agg gtg tgg aga agg gca tta tca gaa gct Asp Ile Ala Pro Gly Leu Arg Val Trp Arg Arg Ala Leu Ser Glu Ala 1695 1700 1705 1710			5496
cgc agt gct gca cag gta gct ctg tgc att cag caa tta cag aaa tca Arg Ser Ala Ala Gln Val Ala Leu Cys Ile Gln Gln Leu Gln Lys Ser 1715 1720 1725			5544
ata gca tgg gaa aaa tca att atg aaa gtt tac tgc caa atc tgt cga Ile Ala Trp Glu Lys Ser Ile Met Lys Val Tyr Cys Gln Ile Cys Arg 1730 1735 1740			5592
aag gga gat aat gaa gaa ctg ctt ctt ctt tgt gat ggc tgt gac aaa Lys Gly Asp Asn Glu Glu Leu Leu Leu Cys Asp Gly Cys Asp Lys 1745 1750 1755			5640
ggc tgt cat ace tac tgc cat aga ccc aag att aca aca atc cca gat Gly Cys His Thr Tyr Cys His Arg Pro Lys Ile Thr Thr Ile Pro Asp 1760 1765 1770			5688
gga gac tgg ttt tgt cca gct tgc att gct aag gca agt ggt caa act Gly Asp Trp Phe Cys Pro Ala Cys Ile Ala Lys Ala Ser Gly Gln Thr 1775 1780 1785 1790			5736
cta aaa atc aaa aaa ctt cat gtc aaa gga aaa aag act aat gag tct Leu Lys Ile Lys Lys Leu His Val Lys Gly Lys Lys Thr Asn Glu Ser 1795 1800 1805			5784
aag aaa ggc aag aag gta act tta aca gga gat act gaa gat gaa gac Lys Lys Gly Lys Lys Val Thr Leu Thr Gly Asp Thr Glu Asp Glu Asp 1810 1815 1820			5832

tct gca tct aca agt agt tca cta aaa aga gga aac aaa gac ctc cag Ser Ala Ser Thr Ser Ser Ser Leu Lys Arg Gly Asn Lys Asp Leu Gln 1825 1830 1835	5880
aaa aga aaa atg gag gaa aac act tct att aac ttg tca aaa caa gaa Lys Arg Lys Met Glu Glu Asn Thr Ser Ile Asn Leu Ser Lys Gln Glu 1840 1845 1850	5928
agt ttt act tca gtt aag aaa cct aaa aga gat gac tcc aag gac cta Ser Phe Thr Ser Val Lys Lys Pro Lys Arg Asp Asp Ser Lys Asp Leu 1855 1860 1865 1870	5976
gct ctt tgc agt atg att ctg act gaa atg gaa act cat gag gat gca Ala Leu Cys Ser Met Ile Leu Thr Glu Met Glu Thr His Glu Asp Ala 1875 1880 1885	6024
tgg cct ttt cta ctt cct gta aac ttg aaa ctt gtt cct ggt tat aag Trp Pro Phe Leu Leu Pro Val Asn Leu Lys Leu Val Pro Gly Tyr Lys 1890 1895 1900	6072
aaa gtt att aag aag cct atg gat ttt tcc aca att aga gag aaa cta Lys Val Ile Lys Lys Pro Met Asp Phe Ser Thr Ile Arg Glu Lys Leu 1905 1910 1915	6120
agt agt gga cag tat cca aac ctt gaa acc ttt gct cta gat gtc agg Ser Ser Gly Gln Tyr Pro Asn Leu Glu Thr Phe Ala Leu Asp Val Arg 1920 1925 1930	6168
ctt gtt ttt gac aac tgt gaa aca ttt aat gaa gat gat tct gat ata Leu Val Phe Asp Asn Cys Glu Thr Phe Asn Glu Asp Asp Ser Asp Ile 1935 1940 1945 1950	6216
ggc aga gct ggc cac aat atg agg aag tat ttt gaa aaa aag tgg aca Gly Arg Ala Gly His Asn Met Arg Lys Tyr Phe Glu Lys Lys Trp Thr 1955 1960 1965	6264
gat act ttc aaa gtg agc tgaagttata ataattctctt tattttttttc Asp Thr Phe Lys Val Ser 1970	6312
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<210> 27

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<212> PRT

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 35 40 45
 Ile Trp Thr Cys Lys Ser Thr Gly Ser Ser Gln Leu Thr His Lys Glu
 50 55 60
 Ala Trp Glu Glu Glu Gln Glu Val Ala Glu Leu Leu Lys Glu Glu Phe
 65 70 75 80
 Pro Ala Trp Tyr Glu Lys Leu Val Leu Glu Met Val His His Asn Thr
 85 90 95
 Ala Ser Leu Glu Lys Leu Val Asp Thr Ala Trp Leu Glu Ile Met Thr
 100 105 110
 Lys Tyr Ala Val Gly Glu Glu Cys Asp Phe Glu Val Gly Lys Glu Lys
 115 120 125
 Met Leu Lys Val Lys Ile Val Lys Ile His Pro Leu Glu Lys Val Asp
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 Glu Glu Ala Thr Glu Lys Lys Ser Asp Gly Ala Cys Asp Ser Pro Ser
 145 150 155 160
 Ser Asp Lys Glu Asn Ser Ser Gln Ile Ala Gln Asp His Gln Lys Lys
 165 170 175
 Glu Thr Val Val Lys Glu Asp Glu Gly Arg Arg Glu Ser Ile Asn Asp
 180 185 190
 Arg Ala Arg Arg Ser Pro Arg Lys Leu Pro Thr Ser Leu Lys Lys Gly
 195 200 205
 Glu Arg Lys Trp Ala Pro Pro Lys Phe Leu Pro His Lys Tyr Asp Val
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 Lys Leu Gln Asn Glu Asp Lys Ile Ile Ser Asn Val Pro Ala Asp Ser
 225 230 235 240
 Leu Ile Arg Thr Glu Arg Pro Pro Asn Lys Glu Ile Val Arg Tyr Phe
 245 250 255
 Ile Arg His Asn Ala Leu Arg Ala Gly Thr Gly Glu Asn Ala Pro Trp
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 305 310 315 320
 Ser Lys Thr Asp Asn Ser Ser Leu Ser Ser Pro Leu Asn Pro Lys Leu
 325 330 335
 Trp Cys His Val His Leu Lys Lys Ser Leu Ser Gly Ser Pro Leu Lys
 340 345 350
 Val Lys Asn Ser Lys Asn Ser Lys Ser Pro Glu Glu His Leu Glu Glu
 355 360 365
 Met Met Lys Met Met Ser Pro Asn Lys Leu His Thr Asn Phe His Ile
 370 375 380
 Pro Lys Lys Gly Pro Pro Ala Lys Lys Pro Gly Lys His Ser Asp Lys
 385 390 395 400
 Pro Leu Lys Ala Lys Gly Arg Ser Lys Gly Ile Leu Asn Gly Gln Lys
 405 410 415
 Ser Thr Gly Asn Ser Lys Ser Pro Lys Lys Gly Leu Lys Thr Pro Lys
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 Thr Lys Met Lys Gln Met Thr Leu Leu Asp Met Ala Lys Gly Thr Gln
 435 440 445
 Lys Met Thr Arg Ala Pro Arg Asn Ser Gly Gly Thr Pro Arg Thr Ser

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Ser Lys Pro His Lys His Leu Pro Pro Ala Ala Leu His Leu Ile Ala				
465		470		475
Tyr Tyr Lys Lys Glu Asn Lys Asp Arg Glu Asp Lys Arg Ser Ala Leu Ser				480
	485		490	495
Cys Val Ile Ser Lys Thr Ala Arg Leu Leu Ser Ser Glu Asp Arg Ala				
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Arg Leu Pro Glu Glu Leu Arg Ser Leu Val Gln Lys Arg Tyr Glu Leu				
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Leu Glu His Lys Lys Arg Trp Ala Ser Met Ser Glu Glu Gln Arg Lys				
	530		535	540
Glu Tyr Leu Lys Lys Lys Arg Glu Glu Leu Lys Lys Lys Leu Lys Glu				560
545		550		555
Lys Ala Lys Glu Arg Arg Glu Lys Glu Met Leu Glu Arg Leu Glu Lys				575
	565		570	
Gln Lys Arg Tyr Glu Asp Gln Glu Leu Thr Gly Lys Asn Leu Pro Ala				
	580		585	590
Phe Arg Leu Val Asp Thr Pro Glu Gly Leu Pro Asn Thr Leu Phe Gly				
	595		600	605
Asp Val Ala Met Val Val Glu Phe Leu Ser Cys Tyr Ser Gly Leu Leu				
	610		615	620
Leu Pro Asp Ala Gln Tyr Pro Ile Thr Ala Val Ser Leu Met Glu Ala				
625		630		635
Leu Ser Ala Asp Lys Gly Gly Phe Leu Tyr Leu Asn Arg Val Leu Val				
	645		650	655
Ile Leu Leu Gln Thr Leu Leu Gln Asp Glu Ile Ala Glu Asp Tyr Gly				
	660		665	670
Glu Leu Gly Met Lys Leu Ser Glu Ile Pro Leu Thr Leu His Ser Val				
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	690		695	700
Ser Glu Gly Ser Asp Thr Asp Asp Asn Lys Asp Ser Ala Ala Phe Glu				
705		710		715
Asp Asn Glu Val Gln Asp Glu Phe Leu Glu Lys Leu Glu Thr Ser Glu				
	725		730	735
Phe Phe Glu Leu Thr Ser Glu Glu Lys Leu Gln Ile Leu Thr Ala Leu				
	740		745	750
Cys His Arg Ile Leu Met Thr Tyr Ser Val Gln Asp His Met Glu Thr				
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Arg Gln Gln Met Ser Ala Glu Leu Trp Lys Glu Arg Leu Ala Val Leu				
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Lys Glu Glu Asn Asp Lys Lys Arg Ala Glu Lys Gln Lys Arg Lys Glu				
785		790		795
Met Glu Ala Lys Asn Lys Glu Asn Gly Lys Val Glu Asn Gly Leu Gly				
	805		810	815
Lys Thr Asp Arg Lys Lys Arg Ile Val Lys Phe Glu Pro Gln Val Asp				
	820		825	830
Thr Glu Ala Glu Asp Met Ile Ser Ala Val Lys Ser Arg Arg Leu Leu				
	835		840	845
Ala Ile Gln Ala Lys Lys Glu Arg Glu Ile Gln Glu Arg Glu Met Lys				
	850		855	860
Val Lys Leu Glu Arg Gln Ala Glu Glu Glu Arg Ile Arg Lys His Lys				
865		870		875
Ala Ala Ala Glu Lys Ala Phe Gln Glu Gly Ile Ala Lys Ala Lys Leu				
	885		890	895
Val Met Arg Arg Thr Pro Ile Gly Thr Asp Arg Asn His Asn Arg Tyr				
	900		905	910

Trp Leu Phe Ser Asp Glu Val Pro Gly Leu Phe Ile Glu Lys Gly Trp
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 Val His Asp Ser Ile Asp Tyr Arg Phe Asn His His Cys Lys Asp His
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 Thr Val Ser Gly Asp Glu Asp Tyr Cys Pro Arg Ser Lys Lys Ala Asn
 945 950 955 960
 Leu Gly Lys Asn Ala Ser Met Asn Thr Gln His Gly Thr Ala Thr Glu
 965 970 975
 Val Ala Val Glu Thr Thr Thr Pro Lys Gln Gly Gln Asn Leu Trp Phe
 980 985 990
 Leu Cys Asp Ser Gln Lys Glu Leu Asp Glu Leu Leu Asn Cys Leu His
 995 1000 1005
 Pro Gln Gly Ile Arg Glu Ser Gln Leu Lys Glu Arg Leu Glu Lys Arg
 1010 1015 1020
 Tyr Gln Asp Ile Ile His Ser Ile His Leu Ala Arg Lys Pro Asn Leu
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 Gly Leu Lys Ser Cys Asp Gly Asn Gln Glu Leu Leu Asn Phe Leu Arg
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 Ser Asp Leu Ile Glu Val Ala Thr Arg Leu Gln Lys Gly Gly Leu Gly
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 Tyr Val Glu Glu Thr Ser Glu Phe Glu Ala Arg Val Ile Ser Leu Glu
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 Lys Leu Lys Asp Phe Gly Glu Cys Val Ile Ala Leu Gln Ala Ser Val
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 Ile Lys Lys Phe Leu Gln Gly Phe Met Ala Pro Lys Gln Lys Arg Arg
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 Lys Leu Gln Ser Glu Asp Ser Ala Lys Thr Glu Glu Val Asp Glu Glu
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 Lys Thr Ala Ile Arg Glu Ala Gln Thr Phe Ser Arg Met His Val Leu
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 Leu Gly Met Leu Asp Ala Cys Ile Lys Trp Asp Met Ser Ala Glu Asn
 1170 1175 1180
 Ala Arg Cys Lys Val Cys Pro Lys Lys Gly Glu Asp Asp Lys Leu Ile
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 Ser Trp Pro Phe Arg Glu Pro Val Thr Arg Asp Glu Ala Glu Asp Tyr

1365 1370 1375
 Tyr Asp Val Ile Thr His Pro Met Asp Phe Gln Thr Val Gln Asn Lys
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 Cys Ser Cys Gly Ser Tyr Arg Ser Val Gln Glu Phe Leu Thr Asp Met
 1395 1400 1405
 Lys Gln Val Phe Thr Asn Ala Glu Val Tyr Asn Cys Arg Gly Ser His
 1410 1415 1420
 Val Leu Ser Cys Met Val Lys Thr Glu Gln Cys Leu Val Val Leu Leu
 1425 1430 1435 1440
 His Lys His Leu Pro Gly His Pro Tyr Val Arg Arg Lys Arg Lys Lys
 1445 1450 1455
 Phe Pro Asp Arg Leu Ala Glu Asp Glu Gly Asp Ser Glu Pro Glu Ala
 1460 1465 1470
 Val Gly Gln Ser Arg Asp Glu Asp Arg Arg Ser Arg Glu Ala Glu Ile
 1475 1480 1485
 Gln Glu Trp Leu Gln Asp Thr Ser Leu Tyr Ser Ala Lys Ile Asn Ser
 1490 1495 1500
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 1525

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 Met Ala Pro Leu
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ctg ggc cgc aag ccc ttc ccg ctg gtg aat ccg ttg ccc gga gag gag 405
 Leu Gly Arg Lys Pro Phe Pro Leu Val Asn Pro Leu Pro Gly Glu Glu
 5 10 15 20

ccg ttc ttc acc atc ccg cac act cag gag gcc ttc cgc acc cgg gaa 453
 Pro Phe Phe Thr Ile Pro His Thr Gln Glu Ala Phe Arg Thr Arg Glu
 25 30 35

gag tat gaa gcc cgc ttg gaa agg tac agt gag cgc att tgg acg tgc 501
 Glu Tyr Glu Ala Arg Leu Glu Arg Tyr Ser Glu Arg Ile Trp Thr Cys
 40 45 50

aag agt act gga agc agt cag cta aca cac aag gaa gcc tgg gag gaa 549
 Lys Ser Thr Gly Ser Ser Gln Leu Thr His Lys Glu Ala Trp Glu Glu
 55 60 65

gaa cag gaa gtt gct gag ctt ttg aag gag gag ttt cct gcc tgg tat	597
Glu Gln Glu Val Ala Glu Leu Leu Lys Glu Glu Phe Pro Ala Trp Tyr	
70 75 80	
gag aag ctt gtt ctg gaa atg gtt cac cat aac aca gcc tcc tta gag	645
Glu Lys Leu Val Leu Glu Met Val His His Asn Thr Ala Ser Leu Glu	
85 90 95 100	
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Lys Leu Val Asp Thr Ala Trp Leu Glu Ile Met Thr Lys Tyr Ala Val	
105 110 115	
gga gaa gag tgt gac ttc gag gtt ggg aag gag aaa atg ctc aag gtg	741
Gly Glu Glu Cys Asp Phe Glu Val Gly Lys Glu Lys Met Leu Lys Val	
120 125 130	
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Lys Ile Val Lys Ile His Pro Leu Glu Lys Val Asp Glu Glu Ala Thr	
135 140 145	
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Glu Lys Lys Ser Asp Gly Ala Cys Asp Ser Pro Ser Ser Asp Lys Glu	
150 155 160	
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Asn Ser Ser Gln Ile Ala Gln Asp His Gln Lys Lys Glu Thr Val Val	
165 170 175 180	
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Lys Glu Asp Glu Gly Arg Arg Glu Ser Ile Asn Asp Arg Ala Arg Arg	
185 190 195	
tcg cca cga aaa ctt cct act tca tta aaa aaa gga gaa agg aaa tgg	981
Ser Pro Arg Lys Leu Pro Thr Ser Leu Lys Lys Gly Glu Arg Lys Trp	
200 205 210	
gct cct cca aaa ttt ctg cct cac aaa tat gat gtg aaa cta caa aat	1029
Ala Pro Pro Lys Phe Leu Pro His Lys Tyr Asp Val Lys Leu Gln Asn	
215 220 225	
gaa gat aag atc atc agt aac gtg cca gca gac agc ttg att cgt aca	1077
Glu Asp Lys Ile Ile Ser Asn Val Pro Ala Asp Ser Leu Ile Arg Thr	
230 235 240	
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Glu Arg Pro Pro Asn Lys Glu Ile Val Arg Tyr Phe Ile Arg His Asn	
245 250 255 260	
gca tta cga gct ggt act ggt gaa aat gca cct tgg gtc gta gaa gat	1173
Ala Leu Arg Ala Gly Thr Gly Glu Asn Ala Pro Trp Val Val Glu Asp	
265 270 275	
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Glu Leu Val Lys Lys Tyr Ser Leu Pro Ser Lys Phe Ser Asp Phe Leu	
280 285 290	
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Leu Asp Pro Tyr Lys Tyr Met Thr Leu Asn Pro Ser Thr Lys Arg Lys	
295 300 305	
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Asn Thr Gly Ser Pro Asp Arg Lys Pro Ser Lys Lys Ser Lys Thr Asp	
310 315 320	
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325 330 335 340	
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345 350 355	
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Lys Asn Ser Lys Ser Pro Glu Glu His Leu Glu Glu Met Met Lys Met	
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Ser Lys Ser Pro Lys Lys Gly Leu Lys Thr Pro Lys Thr Lys Met Lys	
425 430 435	
cag atg act ttg ttg gat atg gcc aaa ggc acg cag aag atg aca cga	1701
Gln Met Thr Leu Leu Asp Met Ala Lys Gly Thr Gln Lys Met Thr Arg	
440 445 450	
gcc cca cgg aat tct ggg ggt aca cct agg acc tct agt aaa cct cat	1749
Ala Pro Arg Asn Ser Gly Gly Thr Pro Arg Thr Ser Ser Lys Pro His	
455 460 465	
aaa cat ctg cct cct gca gcc cta cac ctc att gca tac tac aaa gaa	1797
Lys His Leu Pro Pro Ala Ala Leu His Leu Ile Ala Tyr Tyr Lys Glu	
470 475 480	
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Asn Lys Asp Arg Glu Asp Lys Arg Ser Ala Leu Ser Cys Val Ile Ser	
485 490 495 500	
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Lys Thr Ala Arg Leu Leu Ser Ser Glu Asp Arg Ala Arg Leu Pro Glu	
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Glu Leu Arg Ser Leu Val Gln Lys Arg Tyr Glu Leu Leu Glu His Lys	

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cga aga gag aaa gaa atg ctt gag aga tta gaa aaa cag aag cgg tat Arg Arg Glu Lys Glu Met Leu Glu Arg Leu Glu Lys Gln Lys Arg Tyr 565 570 575 580			2085
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gat acc cct gaa ggg ctg ccc aac acg ctg ttt ggg gat gtg gcc atg Asp Thr Pro Glu Gly Leu Pro Asn Thr Leu Phe Gly Asp Val Ala Met 600 605 610			2181
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caa gat gag ttc cta gaa aag ctg gag acc tct gaa ttt ttt gag ctg Gln Asp Glu Phe Leu Glu Lys Leu Glu Thr Ser Glu Phe Phe Glu Leu 725 730 735 740			2565
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ctc atg aca tac tca gtg caa gac cac atg gag acc aga cag cag atg Leu Met Thr Tyr Ser Val Gln Asp His Met Glu Thr Arg Gln Gln Met 760 765 770	2661
tct gca gag ttg tgg aag gaa cgg ctt gct gtg ttg aag gaa gaa aat Ser Ala Glu Leu Trp Lys Glu Arg Leu Ala Val Leu Lys Glu Glu Asn 775 780 785	2709
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gat gaa gtt cca gga tta ttc att gaa aaa ggc tgg gta cat gac agc Asp Glu Val Pro Gly Leu Phe Ile Glu Lys Gly Trp Val His Asp Ser 920 925 930	3141
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gat gag gat tac tgt cct cgc agt aag aaa gca aac tta ggt aaa aat Asp Glu Asp Tyr Cys Pro Arg Ser Lys Lys Ala Asn Leu Gly Lys Asn 950 955 960	3237
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Pro Ala Trp Tyr Glu Lys Leu Val Leu Glu Met Val His His Asn Thr			
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cag atg act ttg ttg gat atg gcc aaa ggc acg cag aag atg aca cga	1701
Gln Met Thr Leu Leu Asp Met Ala Lys Gly Thr Gln Lys Met Thr Arg	
440 445 450	
gcc cca cgg aat tct ggg ggt aca cct agg acc tct agt aaa cct cat	1749
Ala Pro Arg Asn Ser Gly Gly Thr Pro Arg Thr Ser Ser Lys Pro His	
455 460 465	
aaa cat ctg cct cct gca gcc cta cac ctc att gca tac tac aaa gaa	1797
Lys His Leu Pro Pro Ala Ala Leu His Leu Ile Ala Tyr Tyr Lys Glu	
470 475 480	
aac aaa gac agg gag gac aag agg agc gcc ctg tcc tgt gtt atc tcc	1845
Asn Lys Asp Arg Glu Asp Lys Arg Ser Ala Leu Ser Cys Val Ile Ser	
485 490 495 500	
aaa aca gct cgt ctt ctc tct agt gaa gat aga gct cgt ctc cca gaa	1893
Lys Thr Ala Arg Leu Leu Ser Ser Glu Asp Arg Ala Arg Leu Pro Glu	
505 510 515	
gaa ttg cga agt ctt gtt caa aaa cgc tat gaa ctt cta gag cac aaa	1941
Glu Leu Arg Ser Leu Val Gln Lys Arg Tyr Glu Leu Leu Glu His Lys	
520 525 530	
aag agg tgg gct tct atg tct gaa gaa caa cgg aaa gaa tat ttg aaa	1989
Lys Arg Trp Ala Ser Met Ser Glu Glu Gln Arg Lys Glu Tyr Leu Lys	
535 540 545	
aag aaa cgg gag gag ctg aaa aag aag ttg aag gaa aaa gcc aaa gaa	2037
Lys Lys Arg Glu Glu Leu Lys Lys Lys Leu Lys Glu Lys Ala Lys Glu	
550 555 560	
cga aga gag aaa gaa atg ctt gag aga tta gaa aaa cag aag cgg tat	2085
Arg Arg Glu Lys Glu Met Leu Glu Arg Leu Glu Lys Gln Lys Arg Tyr	
565 570 575 580	

gag gac caa gag tta act ggc aaa aac ctt cca gca ttc aga ttg gtg Glu Asp Gln Glu Leu Thr Gly Lys Asn Leu Pro Ala Phe Arg Leu Val 585 590 595	2133
gat acc cct gaa ggg ctg ccc aac acg ctg ttt ggg gat gtg gcc atg Asp Thr Pro Glu Gly Leu Pro Asn Thr Leu Phe Gly Asp Val Ala Met 600 605 610	2181
gtg gtg gaa ttc ttg agc tgt tat tct ggg cta ctt tta cca gat gct Val Val Glu Phe Leu Ser Cys Tyr Ser Gly Leu Leu Leu Pro Asp Ala 615 620 625	2229
cag tat cct att act gct gtg tcc ctt atg gaa gcc ttg agt gca gat Gln Tyr Pro Ile Thr Ala Val Ser Leu Met Glu Ala Leu Ser Ala Asp 630 635 640	2277
aag ggt ggc ttt tta tac ctt aac agg gtg ttg gtc atc ctc tta cag Lys Gly Gly Phe Leu Tyr Leu Asn Arg Val Leu Val Ile Leu Leu Gln 645 650 655 660	2325
acc ctc cta cag acc ctc cta caa gat gag ata gcc gaa gac tat ggt Thr Leu Leu Gln Thr Leu Leu Gln Asp Glu Ile Ala Glu Asp Tyr Gly 665 670 675	2373
gaa ttg gga atg aag ctg tca gaa atc ccc ttg act ctg cat tct gtt Glu Leu Gly Met Lys Leu Ser Glu Ile Pro Leu Thr Leu His Ser Val 680 685 690	2421
tca gag ctg gtg cgg ctc tgc ttg cgc aga tct gat gtt cag gag gaa Ser Glu Leu Val Arg Leu Cys Leu Arg Arg Ser Asp Val Gln Glu Glu 695 700 705	2469
agc gag ggc tca gac aca gat gac aat aaa gat tca gct gca ttt gag Ser Glu Gly Ser Asp Thr Asp Asp Asn Lys Asp Ser Ala Ala Phe Glu 710 715 720	2517
gat aat gag gta caa gat gag ttc cta gaa aag ctg gag acc tct gaa Asp Asn Glu Val Gln Asp Glu Phe Leu Glu Lys Leu Glu Thr Ser Glu 725 730 735 740	2565
ttt ttt gag ctg acg tca gag gag aag cta cag att ttg aca gca ctg Phe Phe Glu Leu Thr Ser Glu Glu Lys Leu Gln Ile Leu Thr Ala Leu 745 750 755	2613
tgc cac cgg atc ctc atg aca tac tca gtg caa gac cac atg gag acc Cys His Arg Ile Leu Met Thr Tyr Ser Val Gln Asp His Met Glu Thr 760 765 770	2661
aga cag cag atg tct gca gag ttg tgg aag gaa cgg ctt gct gtg ttg Arg Gln Gln Met Ser Ala Glu Leu Trp Lys Glu Arg Leu Ala Val Leu 775 780 785	2709
aag gaa gaa aat gat aag aag aga gca gag aaa cag aaa cgg aaa gaa Lys Glu Glu Asn Asp Lys Lys Arg Ala Glu Lys Gln Lys Arg Lys Glu 790 795 800	2757
atg gaa gcc aaa aat aaa gaa aat gga aaa gtt gag aat ggg tta ggc	2805

1030	1035	1040	
ggt cta aaa tct tgt gat ggc aac cag gag ctt tta aac ttc ctt cgt			3525
Gly Leu Lys Ser Cys Asp Gly Asn Gln Glu Leu Leu Asn Phe Leu Arg			
1045	1050	1055	1060
agt gat ctc att gaa gtt gca aca agg tta caa aaa gga gga ctt gga			3573
Ser Asp Leu Ile Glu Val Ala Thr Arg Leu Gln Lys Gly Gly Leu Gly			
1065	1070		1075
tat gtg gaa gaa aca tca gaa ttt gaa gcc cgg gtc att tca tta gag			3621
Tyr Val Glu Glu Thr Ser Glu Phe Glu Ala Arg Val Ile Ser Leu Glu			
1080	1085		1090
aaa ttg aag gat ttt ggt gag tgt gtg att gcc ctt cag gcc agt gtc			3669
Lys Leu Lys Asp Phe Gly Glu Cys Val Ile Ala Leu Gln Ala Ser Val			
1095	1100		1105
ata aag aaa ttt ctc caa ggc ttc atg gct ccc aag caa aag aga aga			3717
Ile Lys Lys Phe Leu Gln Gly Phe Met Ala Pro Lys Gln Lys Arg Arg			
1110	1115		1120
aaa ctc caa agt gaa gat tca gca aaa act gag gaa gtg gat gaa gag			3765
Lys Leu Gln Ser Glu Asp Ser Ala Lys Thr Glu Glu Val Asp Glu Glu			
1125	1130	1135	1140
aag aaa atg gta gag gaa gca aag gtt gca tct gca ctg gag aaa tgg			3813
Lys Lys Met Val Glu Glu Ala Lys Val Ala Ser Ala Leu Glu Lys Trp			
1145	1150		1155
aag aca gca atc cgg gaa gct cag act ttc tcc agg atg cac gtg ctg			3861
Lys Thr Ala Ile Arg Glu Ala Gln Thr Phe Ser Arg Met His Val Leu			
1160	1165		1170
ctt ggg atg ctt gat gcc tgt atc aag tgg gat atg tcc gca gaa aat			3909
Leu Gly Met Leu Asp Ala Cys Ile Lys Trp Asp Met Ser Ala Glu Asn			
1175	1180		1185
gct agg tgc aaa gtt tgt cca aag aaa ggt gag gat gac aaa ttg atc			3957
Ala Arg Cys Lys Val Cys Pro Lys Lys Gly Glu Asp Asp Lys Leu Ile			
1190	1195	1200	
ttg tgt gat gag tgt aat aaa gcc ttc cac ctg ttt tgt ctg agg ccg			4005
Leu Cys Asp Glu Cys Asn Lys Ala Phe His Leu Phe Cys Leu Arg Pro			
1205	1210	1215	1220
gcc ctc tat gaa gta cca gat ggt gag tgg cag tgc cca gct tgc cag			4053
Ala Leu Tyr Glu Val Pro Asp Gly Glu Trp Gln Cys Pro Ala Cys Gln			
1225	1230		1235
ccc gct act gcc agg cgc aac tcc cgt ggc agg aac tat act gaa gag			4101
Pro Ala Thr Ala Arg Arg Asn Ser Arg Gly Arg Asn Tyr Thr Glu Glu			
1240	1245		1250
tct gct tct gag gac agt gaa gat gat gag agt gat gaa gag gag gag			4149
Ser Ala Ser Glu Asp Ser Glu Asp Asp Glu Ser Asp Glu Glu Glu Glu			
1255	1260		1265

gag gaa gaa gag gag gag gag gaa gaa gat tat gag gtg gct ggt ttg Glu Glu Glu Glu Glu Glu Glu Glu Asp Tyr Glu Val Ala Gly Leu 1270 1275 1280	4197
cga ttg aga cct cga aag acc atc cgg ggc aag cac agc gtc atc ccc Arg Leu Arg Pro Arg Lys Thr Ile Arg Gly Lys His Ser Val Ile Pro 1285 1290 1295 1300	4245
cct gca gca agg tca ggc cgg cgc ccg ggt aag aag cca cac tct acc Pro Ala Ala Arg Ser Gly Arg Arg Pro Gly Lys Lys Pro His Ser Thr 1305 1310 1315	4293
agg agg tct cag ccc aag gca cca cct gtg gat gat gct gag gtg gat Arg Arg Ser Gln Pro Lys Ala Pro Pro Val Asp Asp Ala Glu Val Asp 1320 1325 1330	4341
gag ctg gtg ctt cag acc aag cgg agc tcc cgg agg caa agc ctg gag Glu Leu Val Leu Gln Thr Lys Arg Ser Ser Arg Arg Gln Ser Leu Glu 1335 1340 1345	4389
ctg cag aag tgt gaa gag atc ctc cac aag atc gtg aag tac cgc ttc Leu Gln Lys Cys Glu Glu Ile Leu His Lys Ile Val Lys Tyr Arg Phe 1350 1355 1360	4437
agc tgg ccc ttc agg gag cct gtg acc aga gat gag gcc gag gac tac Ser Trp Pro Phe Arg Glu Pro Val Thr Arg Asp Glu Ala Glu Asp Tyr 1365 1370 1375 1380	4485
tat gat gtg atc acg cac ccc atg gac ttt cag aca gtg cag aac aaa Tyr Asp Val Ile Thr His Pro Met Asp Phe Gln Thr Val Gln Asn Lys 1385 1390 1395	4533
tgt tcc tgt ggg agc tac cgc tct gtg cag gag ttt ctt act gac atg Cys Ser Cys Gly Ser Tyr Arg Ser Val Gln Glu Phe Leu Thr Asp Met 1400 1405 1410	4581
aag caa gtg ttt acc aat gct gag gtt tac aac tgc cgt ggc agc cat Lys Gln Val Phe Thr Asn Ala Glu Val Tyr Asn Cys Arg Gly Ser His 1415 1420 1425	4629
gtg cta agc tgc atg gtg aag aca gaa cag tgt cta gtg gtt ctg ttg Val Leu Ser Cys Met Val Lys Thr Glu Gln Cys Leu Val Val Leu Leu 1430 1435 1440	4677
cat aaa cac ctt cct ggc cac cca tat gtc cgc agg aag cgc aag aag His Lys His Leu Pro Gly His Pro Tyr Val Arg Arg Lys Arg Lys Lys 1445 1450 1455 1460	4725
ttt cct gat agg ctt gct gaa gat gaa ggg gac agt gag cca gag gcc Phe Pro Asp Arg Leu Ala Glu Asp Glu Gly Asp Ser Glu Pro Glu Ala 1465 1470 1475	4773
gtt gga cag tcc agg gac gaa gac aga aga agt aga gag gcg gag att Val Gly Gln Ser Arg Asp Glu Asp Arg Arg Ser Arg Glu Ala Glu Ile 1480 1485 1490	4821

cag gaa tgg ctc cag gac acg tcc ctt tac tct gcc aag atc aac tca	4869
Gln Glu Trp Leu Gln Asp Thr Ser Leu Tyr Ser Ala Lys Ile Asn Ser	
1495 1500 1505	
aaa gac cac aac tgt ttc atg atg ctg gtg aat aca caa ttc tgt atg	4917
Lys Asp His Asn Cys Phe Met Met Leu Val Asn Thr Gln Phe Cys Met	
1510 1515 1520	
gca ctc act gat act gtc acc tgagaggaag acgggggaag agacagagta	4968
Ala Leu Thr Asp Thr Val Thr	
1525 1530	
tgaggcttaaa gaaacaagac tgtataataa atacagatta aaaaagaaaa atcgccacca	5028
tctcccctgt tggcctgatt accccgatcc tgctatgtaa cacagcaatc cctcccctgg	5088
agaccagagg ggcttggcac tgtggtggaa gccagaacga gcaggccctt aggaaagaag	5148
gcaggaacag gaactggcct caccagaaaa gctagacctt cggactcctc ctggaaactc	5208
tcagaagggg gggttatggc cctctttgtc ccttcatatt tctggacaaa gaccaccaac	5268
ccaatatcaa gcccataaa gagcttttag aaaaacagca taagcttggg atgacaggcg	5328
tttctggact cctgtgatac tttccagggt tcttggtctt cctcgctcgc ctccctccca	5388
ccctccctag ctgtcccccc acctcagctc ccttaccacg gccctgcctc tctactttctt	5448
ctgtcttcgt cccctggact gtccaacggc ctctggctca ctgtcccttc atcttcagca	5508
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caaca	5573
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tgatgatgc tgaggtggat ga	22
<210> 32	
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<212> DNA	
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<400> 32	
gggtgcgtg atgacatcat ag	22
<210> 33	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
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<223> Synthetically generated primer	
<400> 33	
gagtgcagat aagggtggct tttt	24

<210> 34
 <211> 24
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated primer

<400> 34
 ccaattcacc atagtcttcg gcta

24

<210> 35
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated primer

<400> 35
 gaaacgggag gagctgaaaa ag

22

<210> 36
 <211> 22
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Synthetically generated primer

<400> 36
 ccttcagggg tatccaccaa tc

22

<210> 37
 <211> 59
 <212> PRT
 <213> Homo sapiens

<400> 37
 Ser Trp Pro Phe Leu Lys Leu Val Ser Lys Ile Gln Val Pro Asp Tyr
 1 5 10 15
 Tyr Asp Ile Ile Lys Lys Pro Ile Ala Leu Asn Ile Ile Arg Glu Lys
 20 25 30
 Val Asn Lys Cys Glu Tyr Lys Leu Ala Ser Glu Phe Ile Asp Asp Ile
 35 40 45
 Glu Leu Met Phe Ser Asn Cys Phe Glu Tyr Asn
 10 55

<210> 38
 <211> 59
 <212> PRT
 <213> Saccharomyces cerevisiae

<400> 38
 Ser Trp Pro Phe Leu Lys Pro Val Asn Lys Lys Gln Val Lys Asp Tyr
 1 5 10 15
 Tyr Thr Val Ile Lys Arg Pro Met Asp Ile Glu Ile Ile Gly Lys Asn

20 25 30
 Ile Glu Ala His Arg Tyr His Ser Arg Ala Glu Tyr Leu Ala Asp Ile
 35 40 45
 Glu Leu Ile Ala Thr Asn Cys Glu Gln Tyr Asn
 50 55

<210> 39
 <211> 59
 <212> PRT
 <213> Homo sapiens

<400> 39
 Thr Tyr Pro Phe His Thr Pro Val Asn Ala Lys Val Val Lys Asp Tyr
 1 5 10 15
 Tyr Lys Ile Ile Thr Arg Pro Met Asp Leu Gln Ile Leu Arg Glu Asn
 20 25 30
 Val Arg Lys Arg Leu Tyr Pro Ser Arg Glu Glu Phe Arg Glu His Leu
 35 40 45
 Glu Leu Ile Val Lys Asn Ser Ala Thr Tyr Asn
 50 55

<210> 40
 <211> 59
 <212> PRT
 <213> Homo sapiens

<400> 40
 Ala Trp Pro Phe Met Glu Pro Val Lys Arg Thr Glu Ala Pro Gly Tyr
 1 5 10 15
 Tyr Glu Val Ile Arg Ser Pro Met Asp Leu Lys Ile Met Ser Glu Arg
 20 25 30
 Leu Lys Asn Arg Tyr Tyr Val Ser Lys Lys Leu Phe Met Ala Asp Leu
 35 40 45
 Gln Arg Val Phe Thr Asn Cys Lys Glu Tyr Asn
 50 55

<210> 41
 <211> 61
 <212> PRT
 <213> Homo sapiens

<400> 41
 Ser Leu Pro Phe Arg Gln Pro Val Asp Pro Gln Leu Leu Gly Ile Pro
 1 5 10 15
 Asp Tyr Glu Asp Ile Val Lys Asn Pro Met Asp Leu Ser Ile Ile Lys
 20 25 30
 Arg Lys Leu Asp Thr Gly Gln Tyr Gln Glu Pro Trp Gln Tyr Val Asp
 35 40 45
 Asp Val Trp Leu Met Phe Asn Asn Ala Trp Leu Tyr Asn
 50 55 60

<210> 42
 <211> 45
 <212> PRT
 <213> Homo sapiens

<400> 42

Cys Lys Ile Cys Arg Lys Lys Gly Asp Ala Glu Asn Met Val Leu Cys
 1 5 10 15
 Asp Gly Cys Asp Arg Gly His His Thr Tyr Cys Val Arg Pro Lys Leu
 20 25 30
 Lys Thr Val Pro Glu Gly Asp Trp Phe Cys Pro Glu Cys
 35 40 45

<210> 43
 <211> 44
 <212> PRT
 <213> *Caenorhabditis elegans*

<400> 43
 Cys Gln Ile Cys Lys Ser Met Asp Gly Asp Glu Met Leu Val Cys Asp
 1 5 10 15
 Gly Cys Glu Ser Gly Cys His Met Glu Cys Phe Arg Pro Arg Met Thr
 20 25 30
 Lys Val Pro Glu Gly Asp Trp Phe Cys Gln Arg Cys
 35 40

<210> 44
 <211> 45
 <212> PRT
 <213> *Homo sapiens*

<400> 44
 Cys Met Phe Cys Gly Arg Gly Asn Asn Glu Asp Lys Leu Leu Leu Cys
 1 5 10 15
 Asp Gly Cys Asp Asp Ser Tyr His Thr Phe Cys Leu Ile Pro Pro Leu
 20 25 30
 Pro Asp Val Pro Lys Gly Asp Trp Arg Cys Pro Lys Cys
 35 40 45

<210> 45
 <211> 54
 <212> PRT
 <213> *Homo sapiens*

<400> 45
 Cys Ser Phe Cys Leu Gly Thr Lys Glu Gln Asn Arg Glu Lys Lys Pro
 1 5 10 15
 Glu Glu Leu Ile Ser Cys Ala Asp Cys Gly Asn Ser Gly His Pro Ser
 20 25 30
 Cys Leu Lys Phe Ser Pro Glu Leu Thr Val Arg Val Lys Ala Leu Arg
 35 40 45
 Trp Gln Cys Ile Glu Cys
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<210> 46
 <211> 46
 <212> PRT
 <213> *Homo sapiens*

<400> 46
 Cys Ser Ser Cys Arg Asp Gln Gly Lys Asn Ala Asp Asn Met Leu Phe
 1 5 10 15
 Cys Asp Ser Cys Asp Arg Gly Phe His Met Glu Cys Cys Asp Pro Pro

Leu Thr Arg Met Pro Lys Gly Met Trp Ile Cys Gln Ile Cys

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<210> 47
<211> 75
<212> PRT
<213> Homo sapiens
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<400> 47																
Cys	Glu	Lys	Cys	Phe	Asn	Glu	Ile	Gln	Gly	Glu	Ser	Val	Ser	Leu	Gly	
1				5					10					15		
Asp	Asp	Pro	Ser	Gln	Pro	Gln	Thr	Thr	Ile	Asn	Asn	Glu	Gln	Phe	Ser	
			20					25					30			
Lys	Arg	Lys	Asn	Asp	Thr	Leu	Asp	Pro	Glu	Leu	Phe	Val	Glu	Cys	Thr	
		35				40						45				
Glu	Cys	Gly	Arg	Lys	Met	His	Gln	Ile	Cys	Val	Leu	His	His	Glu	Ile	
	50					55					60					
Ile	Trp	Pro	Ala	Gly	Phe	Val	Cys	Asp	Gly	Cys						
65					70					75						

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<210> 48
<211> 75
<212> PRT
<213> Homo sapiens
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<400>	48																
Cys	Glu	Lys	Cys	Phe	Thr	Glu	Ile	Gln	Gly	Glu	Asn	Val	Thr	Leu	Gly		
1				5					10					15			
Asp	Asp	Pro	Ser	Gln	Pro	Gln	Thr	Thr	Ile	Ser	Lys	Asp	Gln	Phe	Glu		
			20					25					30				
Lys	Lys	Lys	Asn	Asp	Thr	Leu	Asp	Pro	Glu	Pro	Phe	Val	Asp	Cys	Lys		
		35					40					45					
Glu	Cys	Gly	Arg	Lys	Met	His	Gln	Ile	Cys	Val	Leu	His	Tyr	Asp	Ile		
	50					55					60						
Ile	Trp	Pro	Ser	Gly	Phe	Val	Cys	Asp	Asn	Cys							
65					70					75							

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<210> 49
<211> 59
<212> PRT
<213> Homo sapiens
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<400> 49
Ser Trp Pro Phe Leu Lys Leu Val Ser Lys Ile Gln Val Pro Asp Tyr
  1             5             10             15
Tyr Asp Ile Ile Lys Lys Pro Ile Ala Leu Asn Ile Ile Arg Glu Lys
          20             25             30
Val Asn Lys Cys Glu Tyr Lys Leu Ala Ser Glu Phe Ile Asp Asp Ile
      35             40             45
Glu Leu Met Phe Ser Asn Cys Phe Glu Tyr Asn
    50             55

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<210> 50
<211> 59
<212> PRT
<213> Homo sapiens
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<400> 50

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Ser Trp Pro Phe His His Pro Val Asn Lys Lys Phe Val Pro Asp Tyr
 1              5              10              15
Tyr Lys Val Ile Val Asn Pro Met Asp Ile Glu Thr Ile Arg Lys Asn
              20              25              30
Ile Ser Lys His Lys Tyr Gln Ser Arg Glu Ser Phe Leu Asp Asp Val
              35              40              45
Asn Leu Ile Leu Ala Asn Ser Val Lys Tyr Asn
 50              55

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<210> 51

<211> 59

<212> PRT

<213> Homo sapiens

<400> 51

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Ala Trp Pro Phe Leu Glu Pro Val Asn Pro Arg Leu Val Ser Gly Tyr
 1              5              10              15
Arg Arg Ile Ile Lys Asn Pro Met Asp Phe Ser Thr Met Arg Glu Arg
              20              25              30
Leu Leu Arg Gly Gly Tyr Thr Ser Ser Glu Glu Phe Ala Ala Asp Ala
              35              40              45
Leu Leu Val Phe Asp Asn Cys Gln Thr Phe Asn
 50              55

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<210> 52

<211> 59

<212> PRT

<213> Homo sapiens

<400> 52

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Ala Trp Pro Phe Met Glu Pro Val Lys Arg Thr Glu Ala Pro Gly Tyr
 1              5              10              15
Tyr Glu Val Ile Arg Ser Pro Met Asp Leu Lys Thr Met Ser Glu Arg
              20              25              30
Leu Lys Asn Arg Tyr Tyr Val Ser Lys Lys Leu Phe Met Ala Asp Leu
              35              40              45
Gln Arg Val Phe Thr Asn Cys Lys Glu Tyr Asn
 50              55

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<210> 53

<211> 82

<212> PRT

<213> Caenorhabditis elegans

<400> 53

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Ala Leu Pro Phe Leu Glu Pro Val Asn Pro Lys Leu Val Pro Gly Tyr
 1              5              10              15
Lys Met Ile Ile Ser Lys Pro Met Asp Leu Lys Thr Ile Arg Gln Lys
              20              25              30
Asn Glu Lys Leu Ile Val Ser Glu Thr Tyr Gln Phe Cys Phe Phe Ala
              35              40              45
Ile Phe Asp Leu Lys Leu Lys Met Lys Ile Thr Gln Tyr Glu Thr Pro
 50              55              60
Glu Asp Phe Ala Glu Asp Ile Glu Leu Met Phe Ala Asn Cys Arg Gln
 65              70              75              80

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Phe Asn

<210> 54
 <211> 61
 <212> PRT
 <213> Homo sapiens

<400> 54
 Ser Leu Pro Phe Arg Gln Pro Val Asp Pro Gln Leu Leu Gly Ile Pro
 1 5 10 15
 Asp Tyr Phe Asp Ile Val Lys Met Pro Met Asp Leu Ser Thr Ile Lys
 20 25 30
 Arg Lys Leu Asp Thr Gly Gln Tyr Gln Glu Pro Trp Gln Tyr Val Asp
 35 40 45
 Asp Val Trp Leu Met Phe Asn Asn Ala Trp Leu Tyr Asn
 50 55 60

<210> 55
 <211> 45
 <212> PRT
 <213> Homo sapiens

<400> 55
 Cys Lys Ile Cys Arg Lys Lys Gly Asp Ala Glu Asn Met Val Leu Cys
 1 5 10 15
 Asp Gly Cys Asp Arg Gly His His Thr Tyr Cys Val Arg Pro Lys Leu
 20 25 30
 Lys Thr Val Pro Glu Gly Asp Trp Phe Cys Pro Glu Cys
 35 40 45

<210> 56
 <211> 44
 <212> PRT
 <213> Caenorhabditis elegans

<400> 56
 Cys Gln Ile Cys Lys Ser Met Asp Gly Asp Glu Met Leu Val Cys Asp
 1 5 10 15
 Gly Cys Glu Ser Gly Cys His Met Glu Cys Phe Arg Pro Arg Met Thr
 20 25 30
 Lys Val Pro Glu Gly Asp Trp Phe Cys Gln Arg Cys
 35 40

<210> 57
 <211> 44
 <212> PRT
 <213> Homo sapiens

<400> 57
 Cys Met Phe Cys Gly Arg Gly Asn Asn Glu Asp Lys Leu Leu Leu Cys
 1 5 10 15
 Asp Gly Cys Asp Ser Tyr His Thr Phe Cys Leu Ile Pro Pro Leu Pro
 20 25 30
 Asp Val Pro Lys Gly Asp Trp Arg Cys Pro Lys Cys
 35 40

<210> 58
 <211> 54
 <212> PRT
 <213> Homo sapiens

<400> 58
 Cys Ser Phe Cys Leu Gly Thr Lys Glu Gln Asn Arg Glu Lys Lys Pro
 1 5 10 15
 Glu Glu Leu Ile Ser Cys Ala Asp Cys Gly Asn Ser Gly His Pro Ser
 20 25 30
 Cys Leu Lys Phe Ser Pro Glu Leu Thr Val Arg Val Lys Ala Leu Arg
 35 40 45
 Trp Gln Cys Ile Glu Cys
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<210> 59
 <211> 46
 <212> PRT
 <213> Homo sapiens

<400> 59
 Cys Ser Ser Cys Arg Asp Gln Gly Lys Asn Ala Asp Asn Met Leu Phe
 1 5 10 15
 Cys Asp Ser Cys Asp Arg Gly Phe His Met Glu Cys Cys Asp Pro Pro
 20 25 30
 Leu Thr Arg Met Pro Lys Gly Met Trp Ile Cys Gln Ile Cys
 35 40 45

<210> 60
 <211> 75
 <212> PRT
 <213> Homo sapiens

<400> 60
 Cys Glu Lys Cys Phe Asn Glu Ile Gln Gly Glu Ser Val Ser Leu Gly
 1 5 10 15
 Asp Asp Pro Ser Gln Pro Gln Thr Thr Ile Asn Lys Glu Gln Phe Ser
 20 25 30
 Lys Arg Lys Asn Asp Thr Leu Asp Pro Glu Leu Phe Val Glu Cys Thr
 35 40 45
 Glu Cys Gly Arg Lys Met His Gln Ile Cys Val Leu His His Glu Ile
 50 55 60
 Ile Trp Pro Ala Gly Phe Val Cys Asp Gly Cys
 65 70 75

<210> 61
 <211> 45
 <212> PRT
 <213> Homo sapiens

<400> 61
 Cys Leu Val Cys Arg Lys Gly Asp Asn Asp Arg Phe Leu Leu Leu Cys
 1 5 10 15
 Asp Gly Cys Asp Arg Gly Cys His Ile Tyr Cys His Arg Pro Lys Met
 20 25 30
 Glu Ala Val Pro Glu Gly Asp Trp Phe Cys Thr Val Cys
 35 40 45

<210> 62
 <211> 211
 <212> PRT
 <213> Homo sapiens

<400> 62
 Arg Glu Glu Lys Arg Lys Tyr Val Glu Tyr Leu Lys Gln Trp Ser Lys
 1 5 10 15
 Pro Arg Glu Asp Met Glu Cys Asp Asp Leu Lys Glu Leu Pro Glu Pro
 20 25 30
 Thr Pro Val Lys Thr Arg Leu Pro Pro Glu Ile Phe Gly Asp Ala Leu
 35 40 45
 Met Val Leu Glu Phe Leu Asn Ala Phe Gly Glu Leu Phe Asp Leu Gln
 50 55 60
 Asp Glu Phe Pro Asp Gly Val Thr Leu Glu Val Leu Glu Glu Ala Leu
 65 70 75 80
 Val Gly Asn Asp Ser Glu Gly Pro Leu Cys Glu Leu Leu Phe Phe Phe
 85 90 95
 Leu Thr Ala Ile Phe Gln Ala Ile Ala Glu Glu Glu Glu Val Ala
 100 105 110
 Lys Glu Gln Leu Thr Asp Ala Asp Thr Lys Gly Cys Ser Leu Lys Ser
 115 120 125
 Leu Asp Leu Asp Ser Cys Thr Leu Ser Glu Ile Leu Arg Leu His Ile
 130 135 140
 Leu Ala Ser Gly Ala Asp Val Thr Ser Ala Asn Ala Lys Tyr Arg Tyr
 145 150 155 160
 Gln Lys Arg Gly Gly Phe Asp Ala Thr Asp Asp Ala Cys Met Glu Leu
 165 170 175
 Arg Leu Ser Asn Pro Ser Leu Val Lys Lys Leu Ser Ser Thr Ser Val
 180 185 190
 Tyr Asp Leu Thr Pro Gly Glu Lys Met Lys Ile Leu His Ala Leu Cys
 195 200 205
 Gly Lys Leu
 210

<210> 63
 <211> 185
 <212> PRT
 <213> Caenorhabditis elegans

<400> 63
 Leu Asn Asp Glu Phe Thr Glu Glu Leu Val His Ser Gln Ile Met Ser
 1 5 10 15
 Asn Gly Val Asp Glu Cys Lys Ile Arg Glu Arg Glu Ala Asp Asp Leu
 20 25 30
 Leu Val Asn Ile Asn Asp Val Arg His Leu Pro Asp Phe Ser Arg Ile
 35 40 45
 Gly Asn Gln Cys Leu Ser Ser Gln Gly Phe Ala Asp Ala Leu Met Val
 50 55 60
 His Glu Phe Val Gln Asn Phe Gly His Val Leu Gly Ile Asp Leu Glu
 65 70 75 80
 Ile Ala Pro Lys Leu Glu Ser Leu Cys Ala Gly Leu Asp Gly Asp Ala
 85 90 95
 Asn His Ala Glu Gln Thr Leu Gln Leu Thr Arg Gln Leu Leu Arg Leu
 100 105 110
 Ala Leu Glu Phe Pro Gly Met Gly Asn Glu Lys Arg Phe Gly Gln Gly

115 120 125
 Gly Gly Glu Met Gly Leu Asp Arg Glu Asn Phe Ser Glu Val Met Arg
 130 135 140
 Leu Phe Leu Ile Asp Lys Gly Lys Arg Gly Glu Leu Ser Gln Pro
 145 150 155 160
 Leu Leu Thr Cys Asn Phe Leu Ser Ile Ser Pro Glu Gln Lys Ala Ser
 165 170 175
 Ile Leu Ala Phe Leu Cys Asp Glu Leu
 180 185

<210> 64
 <211> 175
 <212> PRT
 <213> Homo sapiens

<400> 64
 Leu Glu Glu Arg Gln Lys Gln Gln Met Ile Leu Glu Glu Met Lys Lys
 1 5 10 15
 Pro Thr Glu Asp Met Cys Leu Thr Asp His Gln Pro Leu Pro Asp Phe
 20 25 30
 Ser Arg Val Pro Gly Leu Thr Leu Pro Ser Gly Ala Phe Ser Asp Cys
 35 40 45
 Leu Thr Ile Val Glu Phe Leu His Ser Phe Gly Lys Val Leu Gly Phe
 50 55 60
 Asp Pro Ala Lys Asp Val Pro Ser Leu Gly Val Leu Gln Glu Gly Leu
 65 70 75 80
 Leu Cys Gln Gly Asp Ser Leu Gly Glu Val Gln Asp Leu Leu Val Arg
 85 90 95
 Leu Leu Lys Ala Ala Leu His Asp Pro Gly Phe Pro Ser Tyr Cys Gln
 100 105 110
 Ser Leu Lys Ile Leu Gly Glu Lys Val Ser Glu Ile Pro Leu Thr Arg
 115 120 125
 Asp Asn Val Ser Glu Ile Leu Arg Cys Pro Leu Met Ala Tyr Gly Val
 130 135 140
 Glu Pro Ala Leu Cys Asp Arg Leu Arg Thr Gln Pro Pro Gln Ala Gln
 145 150 155 160
 Pro Pro Gln Lys Ala Ala Val Leu Ala Phe Pro Val His Glu Leu
 165 170 175

<210> 65
 <211> 176
 <212> PRT
 <213> Homo sapiens

<400> 65
 Leu Glu Gln Arg Arg Leu Glu Leu Glu Met Ala Lys Glu Leu Lys Lys
 1 5 10 15
 Pro Asn Glu Asp Met Cys Leu Ala Asp Gln Lys Pro Leu Pro Glu Leu
 20 25 30
 Pro Arg Ile Pro Gly Leu Val Leu Ser Gly Ser Thr Phe Ser Asp Cys
 35 40 45
 Leu Met Val Val Gln Phe Leu Arg Asn Phe Gly Lys Val Leu Gly Phe
 50 55 60
 Asp Val Asn Ile Asp Val Pro Asn Leu Ser Val Leu Gln Glu Gly Leu
 65 70 75 80
 Leu Asn Ile Gly Asp Ser Met Gly Glu Val Gln Asp Leu Leu Val Arg
 85 90 95

Leu Leu Ser Ala Ala Val Cys Asp Pro Gly Leu Ile Thr Gly Tyr Lys
 100 105 110
 Ala Lys Thr Ala Leu Gly Glu His Leu Leu Asn Val Gly Val Asn Arg
 115 120 125
 Asp Asn Val Ser Glu Ile Leu Gln Ile Phe Met Glu Ala His Cys Gly
 130 135 140
 Gln Thr Glu Leu Thr Glu Ser Leu Lys Thr Lys Ala Phe Gln Ala His
 145 150 155 160
 Thr Pro Ala Gln Lys Ala Ser Val Leu Ala Phe Leu Ile Asn Glu Leu
 165 170 175

<210> 66
 <211> 59
 <212> PRT
 <213> Homo sapiens

<400> 66
 Tyr Pro Ile Thr Ala Val Ser Leu Met Glu Ala Leu Ser Ala Asp Lys
 1 5 10 15
 Gly Gly Phe Leu Tyr Leu Asn Arg Val Leu Val Ile Leu Leu Gln Thr
 20 25 30
 Leu Leu Gln Asp Glu Ile Ala Glu Asp Tyr Gly Glu Leu Gly Met Lys
 35 40 45
 Leu Ser Glu Ile Pro Leu His Ser Val Ser Glu
 50 55

<210> 67
 <211> 65
 <212> PRT
 <213> Homo sapiens

<400> 67
 Tyr Pro Ile Thr Ala Val Ser Leu Met Glu Ala Leu Ser Ala Asp Lys
 1 5 10 15
 Gly Gly Phe Leu Tyr Leu Asn Arg Val Leu Val Ile Leu Leu Gln Thr
 20 25 30
 Leu Leu Gln Thr Leu Leu Gln Asp Glu Ile Ala Glu Asp Tyr Gly Glu
 35 40 45
 Leu Gly Met Lys Leu Ser Lys Ile Pro Leu Thr Leu His Ser Val Ser
 50 55 60
 Glu
 65

<210> 68
 <211> 1525
 <212> PRT
 <213> Homo sapiens

<400> 68
 Met Ala Pro Leu Leu Gly Arg Lys Pro Phe Pro Leu Val Asn Pro Leu
 1 5 10 15
 Pro Gly Glu Glu Pro Phe Phe Thr Ile Pro His Thr Gln Glu Ala Phe
 20 25 30
 Arg Thr Arg Glu Glu Tyr Glu Ala Arg Leu Glu Arg Tyr Ser Glu Arg
 35 40 45
 Ile Trp Thr Cys Lys Ser Thr Gly Ser Ser Gln Leu Thr His Lys Glu
 50 55 60

Ala	Trp	Glu	Glu	Glu	Gln	Glu	Val	Ala	Glu	Leu	Leu	Lys	Glu	Glu	Phe	65	70	75	80
Pro	Ala	Trp	Tyr	Glu	Lys	Leu	Val	Leu	Glu	Met	Val	His	His	Asn	Thr	85	90	95	
Ala	Ser	Leu	Glu	Lys	Leu	Val	Asp	Thr	Ala	Trp	Leu	Glu	Ile	Met	Thr	100	105	110	
Lys	Tyr	Ala	Val	Gly	Glu	Glu	Cys	Asp	Phe	Glu	Val	Gly	Lys	Glu	Lys	115	120	125	
Met	Leu	Lys	Val	Lys	Ile	Val	Lys	Ile	His	Pro	Leu	Glu	Lys	Val	Asp	130	135	140	
Glu	Glu	Ala	Thr	Glu	Lys	Lys	Ser	Asp	Gly	Ala	Cys	Asp	Ser	Pro	Ser	145	150	155	160
Ser	Asp	Lys	Glu	Asn	Ser	Ser	Gln	Ile	Ala	Gln	Asp	His	Gln	Lys	Lys	165	170	175	
Glu	Thr	Val	Val	Lys	Glu	Asp	Glu	Gly	Arg	Arg	Glu	Ser	Ile	Asn	Asp	180	185	190	
Arg	Ala	Arg	Arg	Ser	Pro	Arg	Lys	Leu	Pro	Thr	Ser	Leu	Lys	Lys	Gly	195	200	205	
Glu	Arg	Lys	Trp	Ala	Pro	Pro	Lys	Phe	Leu	Pro	His	Lys	Tyr	Asp	Val	210	215	220	
Lys	Leu	Gln	Asn	Glu	Asp	Lys	Ile	Ile	Ser	Asn	Val	Pro	Ala	Asp	Ser	225	230	235	240
Leu	Ile	Arg	Thr	Glu	Arg	Pro	Pro	Asn	Lys	Glu	Ile	Val	Arg	Tyr	Phe	245	250	255	
Ile	Arg	His	Asn	Ala	Leu	Arg	Ala	Gly	Thr	Gly	Glu	Asn	Ala	Pro	Trp	260	265	270	
Val	Val	Glu	Asp	Glu	Leu	Val	Lys	Lys	Tyr	Ser	Leu	Pro	Ser	Lys	Phe	275	280	285	
Ser	Asp	Phe	Leu	Leu	Asp	Pro	Tyr	Lys	Tyr	Met	Thr	Leu	Asn	Pro	Ser	290	295	300	
Thr	Lys	Arg	Lys	Asn	Thr	Gly	Ser	Pro	Asp	Arg	Lys	Pro	Ser	Lys	Lys	305	310	315	320
Ser	Lys	Thr	Asp	Asn	Ser	Ser	Leu	Ser	Ser	Pro	Leu	Asn	Pro	Lys	Leu	325	330	335	
Trp	Cys	His	Val	His	Leu	Lys	Lys	Ser	Leu	Ser	Gly	Ser	Pro	Leu	Lys	340	345	350	
Val	Lys	Asn	Ser	Lys	Asn	Ser	Lys	Ser	Pro	Glu	Glu	His	Leu	Glu	Glu	355	360	365	
Met	Met	Lys	Met	Met	Ser	Pro	Asn	Lys	Leu	His	Thr	Asn	Pro	His	Ile	370	375	380	
Pro	Lys	Lys	Gly	Pro	Pro	Ala	Lys	Lys	Pro	Gly	Lys	His	Ser	Asp	Lys	385	390	395	400
Pro	Leu	Lys	Ala	Lys	Gly	Arg	Ser	Lys	Gly	Ile	Leu	Asn	Gly	Gln	Lys	405	410	415	
Ser	Thr	Gly	Asn	Ser	Lys	Ser	Pro	Lys	Lys	Gly	Leu	Lys	Thr	Pro	Lys	420	425	430	
Thr	Lys	Met	Lys	Gln	Met	Thr	Leu	Leu	Asp	Met	Ala	Lys	Gly	Thr	Gln	435	440	445	
Lys	Met	Thr	Arg	Ala	Pro	Arg	Asn	Ser	Gly	Gly	Thr	Pro	Arg	Thr	Ser	450	455	460	
Ser	Lys	Pro	His	Lys	His	Leu	Pro	Pro	Ala	Ala	Leu	His	Leu	Ile	Ala	465	470	475	480
Tyr	Tyr	Lys	Glu	Asn	Lys	Asp	Arg	Glu	Asp	Lys	Arg	Ser	Ala	Leu	Ser	485	490	495	
Cys	Val	Ile	Ser	Lys	Thr	Ala	Arg	Leu	Ser	Ser	Glu	Asp	Arg	Ala		500	505	510	
Arg	Leu	Pro	Glu	Glu	Leu	Arg	Ser	Leu	Val	Gln	Lys	Arg	Tyr	Glu	Leu				

515	520	525
Leu Glu His Lys Lys Arg Trp	Ala Ser Met Ser	Glu Glu Gln Arg Lys
530	535	540
Glu Tyr Leu Lys Lys Lys Arg	Glu Glu Leu Lys Lys	Lys Lys Leu Lys Glu
545	550	555
Lys Ala Lys Glu Arg Arg	Glu Lys Glu Met Leu	Glu Arg Leu Glu Lys
565	570	575
Gln Lys Arg Tyr Glu Asp	Gln Glu Leu Thr Gly	Lys Asn Leu Pro Ala
580	585	590
Phe Arg Leu Val Asp Thr	Pro Glu Gly Leu Pro	Asn Thr Leu Phe Gly
595	600	605
Asp Val Ala Met Val Val	Glu Phe Leu Ser Cys	Tyr Ser Gly Leu Leu
610	615	620
Leu Pro Asp Ala Gln Tyr	Pro Ile Thr Ala Val	Ser Leu Met Glu Ala
625	630	635
Leu Ala Asp Lys Gly Gly	Phe Leu Tyr Leu Asn	Arg Val Leu Val Ile
645	650	655
Leu Leu Gln Thr Leu Leu	Gln Asp Glu Ile Ala	Glu Asp Tyr Gly Glu
660	665	670
Leu Gly Met Lys Leu Ser	Glu Ile Pro Leu Thr	Leu His Ser Val Ser
675	680	685
Glu Leu Val Arg Leu Cys	Leu Arg Arg Ser Asp	Val Gln Glu Glu Ser
690	695	700
Glu Gly Ser Asp Thr Asp	Asn Lys Asp Ser Ala	Ala Phe Glu Asp
705	710	715
Asn Glu Val Gln Asp Glu	Phe Leu Glu Lys Leu	Glu Thr Ser Glu Phe
725	730	735
Phe Glu Leu Thr Ser Glu	Glu Lys Leu Gln Ile	Leu Thr Ala Leu Cys
740	745	750
His Arg Ile Leu Met Thr	Tyr Ser Val Gln Asp	His Met Glu Thr Arg
755	760	765
Gln Gln Met Ser Ala Glu	Leu Trp Lys Glu Arg	Leu Ala Val Leu Lys
770	775	780
Glu Glu Asn Asp Lys Lys	Arg Ala Glu Lys Gln	Lys Arg Lys Glu Met
785	790	795
Glu Ala Lys Asn Lys Glu	Asn Gly Lys Val Glu	Asn Gly Leu Gly Lys
805	810	815
Thr Asp Arg Lys Lys Arg	Ile Val Lys Phe Glu	Pro Gln Val Asp Thr
820	825	830
Glu Ala Glu Asp Met Ile	Ser Ala Val Lys Ser	Arg Arg Leu Leu Ala
835	840	845
Ile Gln Ala Lys Lys Glu	Arg Glu Ile Gln Glu	Arg Glu Met Lys Val
850	855	860
Lys Leu Glu Arg Gln Ala	Glu Glu Glu Arg Ile	Arg Lys His Lys Ala
865	870	875
Ala Ala Glu Lys Ala Phe	Gln Glu Gly Ile Ala	Lys Ala Lys Leu Val
885	890	895
Met Arg Arg Thr Pro Ile	Gly Thr Asp Arg Asn	His Asn Arg Tyr Trp
900	905	910
Leu Phe Ser Asp Glu Val	Pro Gly Leu Phe Ile	Glu Lys Gly Trp Val
915	920	925
His Asp Ser Ile Asp Tyr	Arg Phe Asn His His	Cys Lys Asp His Thr
930	935	940
Val Ser Gly Cys Glu Asp	Tyr Cys Pro Arg Ser	Lys Lys Ala Asn Leu
945	950	955
Gly Lys Asn Ala Ser Met	Asn Thr Gln His Gly	Thr Ala Thr Glu Val
965	970	975

Ala Val Glu Thr Thr Thr Pro Lys Gln Gly Gln Asn Leu Trp Phe Leu
 980 985 990
 Cys Asp Ser Gln Lys Glu Leu Asp Glu Leu Leu Asn Cys Leu His Pro
 995 1000 1005
 Gln Gly Ile Arg Glu Ser Gln Leu Lys Glu Arg Leu Glu Lys Arg Tyr
 1010 1015 1020
 Gln Asp Ile Ile His Ser Leu His Leu Ala Arg Lys Pro Asn Leu Gly
 1025 1030 1035 1040
 Leu Lys Ser Cys Asp Gly Asn Gln Glu Leu Leu Asn Phe Leu Arg Ser
 1045 1050 1055
 Asp Leu Ile Glu Val Ala Thr Arg Leu Gln Lys Gly Gly Leu Gly Tyr
 1060 1065 1070
 Val Glu Glu Thr Ser Glu Phe Glu Ala Arg Val Ile Ser Leu Glu Lys
 1075 1080 1085
 Leu Lys Asp Phe Gly Glu Cys Val Ile Ala Leu Gln Ala Ser Val Ile
 1090 1095 1100
 Lys Lys Phe Leu Gln Gly Phe Met Ala Pro Lys Gln Lys Arg Arg Lys
 1105 1110 1115 1120
 Leu Gln Ser Glu Asp Ser Ala Lys Thr Glu Glu Val Asp Glu Glu Lys
 1125 1130 1135
 Lys Met Val Glu Glu Ala Lys Val Ala Ser Ala Leu Glu Lys Trp Lys
 1140 1145 1150
 Thr Ala Ile Arg Glu Ala Gln Thr Phe Ser Arg Met His Val Leu Leu
 1155 1160 1165
 Gly Met Leu Asp Ala Cys Ile Lys Trp Asp Met Ser Ala Glu Asn Ala
 1170 1175 1180
 Arg Cys Lys Val Cys Pro Lys Lys Gly Glu Asp Asp Lys Leu Ile Leu
 1185 1190 1195 1200
 Cys Asp Glu Cys Asn Lys Ala Phe His Leu Phe Cys Leu Arg Pro Ala
 1205 1210 1215
 Leu Tyr Glu Val Pro Asp Gly Glu Trp Gln Cys Pro Ala Cys Gln Pro
 1220 1225 1230
 Ala Thr Ala Arg Arg Asn Ser Arg Gly Arg Asn Tyr Thr Glu Glu Ser
 1235 1240 1245
 Ala Ser Glu Asp Ser Glu Asp Glu Ser Asp Glu Glu Glu Glu Glu
 1250 1255 1260
 Glu Glu Glu Glu Glu Glu Asp Tyr Glu Val Ala Gly Leu Arg Leu
 1265 1270 1275 1280
 Arg Pro Arg Lys Thr Ile Arg Gly Lys His Ser Val Ile Pro Pro Ala
 1285 1290 1295
 Ala Arg Ser Gly Arg Arg Pro Gly Lys Lys Pro His Ser Thr Arg Arg
 1300 1305 1310
 Ser Gln Pro Lys Ala Pro Pro Val Asp Ala Glu Val Asp Glu Leu Val
 1315 1320 1325
 Leu Gln Thr Lys Arg Ser Ser Arg Arg Gln Ser Leu Glu Leu Gln Lys
 1330 1335 1340
 Cys Glu Glu Ile Leu His Lys Ile Val Lys Tyr Arg Phe Ser Trp Pro
 1345 1350 1355 1360
 Phe Arg Glu Pro Val Thr Arg Asp Glu Ala Glu Asp Tyr Tyr Asp Val
 1365 1370 1375
 Ile Thr His Pro Met Asp Phe Gln Thr Val Gln Asn Lys Cys Ser Cys
 1380 1385 1390
 Gly Ser Tyr Arg Ser Val Gln Glu Phe Leu Thr Asp Met Lys Gln Val
 1395 1400 1405
 Phe Thr Asn Ala Glu Val Tyr Asn Cys Arg Gly Ser His Val Leu Ser
 1410 1415 1420
 Cys Met Val Lys Thr Glu Gln Cys Leu Val Val Leu Leu His Lys His

[illegible]

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<210> 69
<211> 1673
<212> PRT
<213> Homo sapiens
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<400>	69															
Met	Glu	Asp	Ala	Ser	Glu	Ser	Ser	Arg	Gly	Val	Ala	Pro	Leu	Ile	Asn	
1				5					10					15		
Asn	Val	Val	Leu	Pro	Gly	Ser	Pro	Leu	Ser	Leu	Pro	Val	Ser	Val	Thr	
			20					25					30			
Gly	Cys	Lys	Ser	His	Arg	Val	Ala	Asn	Lys	Lys	Val	Glu	Ala	Arg	Ser	
		35					40					45				
Glu	Lys	Leu	Leu	Pro	Thr	Ala	Leu	Pro	Pro	Ser	Glu	Pro	Lys	Val	Asp	
	50					55					60					
Gln	Lys	Leu	Pro	Arg	Ser	Ser	Glu	Arg	Arg	Gly	Ser	Gly	Gly	Gly	Thr	
65					70					75					80	
Gln	Phe	Pro	Ala	Arg	Ser	Arg	Ala	Val	Ala	Ala	Gly	Glu	Ala	Ala	Ala	
				85					90					95		
Arg	Gly	Ala	Ala	Gly	Pro	Glu	Arg	Gly	Ser	Pro	Leu	Gly	Arg	Arg	Val	
			100					105					110			
Ser	Pro	Arg	Cys	Leu	Cys	Ser	Gly	Glu	Gly	Gly	Gln	Val	Ala	Val	Gly	
		115					120					125				
Val	Ile	Ala	Gly	Lys	Arg	Gly	Arg	Arg	Gly	Arg	Asp	Gly	Ser	Arg	Arg	
	130					135					140					
Ala	Pro	Gly	Gly	Arg	Glu	Met	Pro	Leu	Leu	His	Arg	Lys	Pro	Phe	Val	
145					150					155					160	
Arg	Gln	Lys	Pro	Pro	Ala	Asp	Leu	Arg	Pro	Asp	Glu	Glu	Val	Phe	Tyr	
				165					170					175		
Cys	Lys	Val	Thr	Asn	Glu	Ile	Phe	Arg	His	Tyr	Asp	Asp	Phe	Phe	Glu	
			180					185					190			
Arg	Thr	Ile	Leu	Cys	Asn	Ser	Leu	Val	Trp	Ser	Cys	Ala	Val	Thr	Gly	
		195					200					205				
Arg	Pro	Gly	Leu	Thr	Tyr	Gln	Glu	Ala	Leu	Glu	Ser	Glu	Lys	Lys	Ala	
	210					215					220					
Arg	Gln	Asn	Leu	Gln	Ser	Phe	Pro	Glu	Pro	Leu	Ile	Ile	Pro	Val	Leu	
225					230					235					240	
Tyr	Leu	Thr	Ser	Leu	Thr	His	Arg	Ser	Arg	Leu	His	Glu	Ile	Cys	Asp	
				245					250					255		
Asp	Ile	Phe	Ala	Tyr	Val	Lys	Asp	Arg	Tyr	Phe	Val	Glu	Glu	Thr	Val	
			260					265					270			
Glu	Val	Ile	Arg	Asn	Asn	Gly	Ala	Arg	Leu	Gln	Cys	Thr	Ile	Leu	Glu	
		275					280					285				
Val	Leu	Pro	Pro	Ser	His	Gln	Asn	Gly	Phe	Ala	Asn	Gly	His	Val	Asn	

290		295		300
Ser Val Asp Gly Glu Thr	Ile Ile Ile Ser Asp Ser Asp Asp Ser Glu			
305	310	315	320	
Thr Gln Ser Cys Ser Phe	Gln Asn Gly Lys Lys Lys Asp Ala Ile Asp			
	325	330	335	
Pro Leu Leu Phe Lys Tyr	Lys Val Gln Pro Thr Lys Lys Glu Leu His			
	340	345	350	
Glu Ser Ala Ile Val Lys	Ala Thr Gln Ile Ser Arg Arg Lys His Leu			
	355	360	365	
Phe Ser Arg Asp Lys Leu	Lys Leu Phe Leu Lys Gln His Cys Glu Pro			
	370	375	380	
Gln Glu Gly Val Ile Lys	Ile Lys Ala Ser Ser Leu Ser Thr Tyr Lys			
385	390	395	400	
Ile Ala Glu Gln Asp Phe	Ser Tyr Phe Phe Pro Asp Asp Pro Pro Thr			
	405	410	415	
Phe Ile Phe Ser Pro Ala	Asn Arg Arg Arg Gly Arg Pro Pro Lys Arg			
	420	425	430	
Ile His Ile Ser Gln Glu	Asp Asn Val Ala Asn Lys Gln Thr Leu Ala			
	435	440	445	
Ser Tyr Arg Ser Lys Ala	Thr Lys Glu Arg Asp Lys Leu Leu Lys Gln			
	450	455	460	
Glu Glu Met Lys Ser Leu	Ala Phe Glu Lys Ala Lys Leu Lys Arg Glu			
465	470	475	480	
Lys Ala Asp Ala Leu Glu	Ala Lys Lys Lys Glu Lys Glu Asp Lys Glu			
	485	490	495	
Lys Lys Arg Glu Glu Leu	Lys Lys Ile Val Glu Glu Glu Arg Leu Lys			
	500	505	510	
Lys Lys Glu Glu Lys Glu	Arg Leu Lys Val Glu Arg Glu Lys Glu Arg			
	515	520	525	
Glu Lys Leu Arg Glu Glu	Lys Arg Lys Tyr Val Glu Tyr Lys Gln Trp			
	530	535	540	
Ser Lys Pro Arg Glu Asp	Met Glu Cys Asp Asp Leu Lys Glu Leu Pro			
545	550	555	560	
Glu Pro Thr Pro Val Lys	Thr Arg Leu Pro Pro Glu Ile Phe Gly Asp			
	565	570	575	
Ala Leu Met Val Leu Glu	Phe Leu Asn Ala Phe Gly Glu Leu Phe Asp			
	580	585	590	
Leu Gln Asp Glu Phe Pro	Asp Gly Val Thr Leu Glu Val Leu Glu Glu			
	595	600	605	
Ala Leu Val Gly Asn Asp	Ser Glu Gly Pro Leu Cys Glu Leu Leu Phe			
	610	615	620	
Phe Phe Leu Thr Ala Ile	Phe Gln Ala Ile Ala Glu Glu Glu Glu Glu			
625	630	635	640	
Val Ala Lys Glu Gln Leu	Thr Asp Ala Asp Thr Lys Gly Cys Ser Leu			
	645	650	655	
Lys Ser Leu Asp Leu Asp	Ser Cys Thr Leu Ser Glu Ile Leu Arg Leu			
	660	665	670	
His Ile Leu Ala Ser Gly	Ala Asp Val Thr Ser Ala Asn Ala Lys Tyr			
	675	680	685	
Arg Tyr Gln Lys Arg Gly	Gly Phe Asp Ala Thr Asp Asp Ala Cys Met			
	690	695	700	
Glu Leu Arg Leu Ser Asn	Pro Ser Leu Val Lys Lys Leu Ser Ser Thr			
705	710	715	720	
Ser Val Tyr Asp Leu Thr	Pro Gly Glu Lys Met Lys Ile Leu His Ala			
	725	730	735	
Leu Cys Gly Lys Leu Leu	Thr Leu Val Ser Thr Arg Asp Phe Ile Glu			
	740	745	750	

Asp Tyr Val Asp Ile Leu Arg Gln Ala Lys Gln Glu Phe Arg Glu Leu
 755 760 765
 Lys Ala Glu Gln His Arg Lys Glu Arg Glu Glu Ala Ala Arg Ile
 770 775 780
 Arg Lys Arg Lys Glu Glu Lys Leu Lys Glu Gln Glu Gln Lys Met Lys
 785 790 795 800
 Glu Lys Gln Glu Lys Leu Lys Glu Asp Glu Gln Arg Asn Ser Thr Ala
 805 810 815
 Asp Ile Ser Ile Gly Glu Glu Glu Arg Glu Asp Phe Asp Thr Ser Ile
 820 825 830
 Glu Ser Lys Asp Thr Glu Gln Lys Glu Leu Asp Gln Asp Met Phe Thr
 835 840 845
 Glu Asp Glu Asp Asp Pro Gly Ser His Lys Arg Gly Arg Arg Gly Lys
 850 855 860
 Arg Gly Gln Asn Gly Phe Lys Glu Phe Thr Arg Gln Glu Gln Ile Asn
 865 870 875 880
 Cys Val Thr Arg Glu Leu Leu Thr Ala Asp Glu Glu Glu Ala Leu Lys
 885 890 895
 Gln Glu His Gln Arg Lys Glu Lys Glu Leu Leu Glu Lys Leu Gln Ser
 900 905 910
 Ala Ile Ala Cys Thr Asn Ile Phe Pro Leu Gly Arg Asp Arg Met Tyr
 915 920 925
 Arg Arg Tyr Trp Ile Phe Pro Ser Leu Pro Gly Leu Phe Ile Glu Glu
 930 935 940
 Asp Tyr Ser Gly Leu Thr Glu Asp His Leu Leu Pro Arg Pro Ser Ser
 945 950 955 960
 Phe Gln Asn Asn Val Gln Ser Gln Asp Pro Gln Val Ser Thr Lys Thr
 965 970 975
 Gly Glu Pro Leu Met Ser Glu Ser Thr Ser Asn Ile Asp Gln Gly Pro
 980 985 990
 Arg Asp His Ser Val Gln Leu Pro Lys Pro Val His Lys Pro Asn Arg
 995 1000 1005
 Trp Cys Phe Tyr Ser Ser Cys Glu Gln Leu Asp Gln Leu Ile Glu Ala
 1010 1015 1020
 Leu Asn Ser Arg Gly His Arg Glu Ser Ala Leu Lys Glu Thr Leu Leu
 1025 1030 1035 1040
 Gln Glu Lys Ser Arg Ile Cys Ala Gln Leu Ala Arg Phe Ser Glu Glu
 1045 1050 1055
 Lys Phe His Phe Ser Asp Lys Arg Gln Pro Asp Ser Lys Pro Thr Tyr
 1060 1065 1070
 Ser Arg Gly Arg Ser Ser Asn Ala Tyr Asp Pro Ser Gln Met Cys Ala
 1075 1080 1085
 Glu Lys Gln Leu Glu Leu Arg Leu Arg Asp Phe Leu Leu Asp Ile Glu
 1090 1095 1100
 Asp Arg Ile Tyr Gln Gly Thr Leu Gly Ala Ile Lys Val Thr Asp Arg
 1105 1110 1115 1120
 His Ile Trp Arg Ser Ala Leu Glu Ser Gly Arg Tyr Glu Leu Leu Ser
 1125 1130 1135
 Glu Glu Asn Lys Glu Asn Gly Ile Ile Lys Thr Val Asn Glu Asp Val
 1140 1145 1150
 Glu Glu Met Glu Ile Asp Glu Gln Thr Lys Val Ile Val Lys Asp Arg
 1155 1160 1165
 Leu Leu Gly Ile Lys Thr Glu Thr Pro Ser Thr Val Ser Thr Asn Ala
 1170 1175 1180
 Ser Thr Pro Gln Ser Val Ser Ser Val Val His Tyr Leu Ala Met Ala
 1185 1190 1195 1200
 Leu Phe Gln Ile Glu Gln Gly Leu Glu Arg Arg Phe Leu Lys Ala Pro

	1205	1210	1215
Leu Asp Ala Ser Asp Ser Gly Arg Ser Tyr Lys Thr Val Leu Asp Arg			
1220	1225	1230	
Trp Arg Glu Ser Leu Leu Ser Ser Ala Ser Leu Ser Gln Val Phe Leu			
1235	1240	1245	
His Leu Ser Thr Leu Asp Arg Ser Val Ile Trp Ser Lys Ser Ile Leu			
1250	1255	1260	
Asn Ala Arg Cys Lys Ile Cys Arg Lys Lys Gly Asp Ala Glu Asn Met			
1265	1270	1275	1280
Val Leu Cys Asp Gly Cys Asp Arg Gly His His Thr Tyr Cys Val Arg			
1285	1290	1295	
Pro Lys Leu Lys Ile Val Pro Glu Gly Asp Trp Phe Cys Pro Glu Cys			
1300	1305	1310	
Arg Pro Lys Gln Arg Cys Arg Arg Leu Ser Phe Arg Gln Arg Pro Ser			
1315	1320	1325	
Leu Glu Ser Asp Glu Asp Val Glu Asp Ser Met Gly Gly Glu Asp Asp			
1330	1335	1340	
Glu Val Asp Gly Asp Glu Glu Gly Gln Ser Glu Glu Glu Glu Tyr			
1345	1350	1355	1360
Glu Val Glu Gln Asp Glu Asp Asp Ser Gln Glu Glu Glu Val Ser			
1365	1370	1375	
Leu Pro Lys Arg Gly Arg Pro Gln Val Arg Leu Pro Val Lys Thr Arg			
1380	1385	1390	
Gly Lys Leu Ser Ser Ser Phe Ser Ser Arg Gly Gln Gln Gln Glu Pro			
1395	1400	1405	
Gly Arg Tyr Pro Ser Arg Ser Gln Gln Ser Thr Pro Lys Thr Thr Val			
1410	1415	1420	
Ser Ser Lys Thr Gly Arg Ser Leu Arg Lys Ile Asn Ser Ala Pro Pro			
1425	1430	1435	1440
Thr Glu Thr Lys Ser Leu Arg Ile Ala Ser Arg Ser Thr Arg His Ser			
1445	1450	1455	
His Gly Pro Leu Gln Ala Asp Val Phe Val Glu Leu Leu Ser Pro Arg			
1460	1465	1470	
Arg Lys Arg Arg Gly Arg Lys Ser Ala Asn Asn Thr Pro Glu Asn Ser			
1475	1480	1485	
Pro Asn Phe Pro Asn Phe Arg Val Ile Ala Thr Lys Ser Ser Glu Gln			
1490	1495	1500	
Ser Arg Ser Val Asn Ile Ala Ser Lys Leu Ser Leu Gln Glu Ser Glu			
1505	1510	1515	1520
Ser Lys Arg Arg Cys Arg Lys Arg Gln Ser Pro Glu Pro Ser Pro Val			
1525	1530	1535	
Thr Leu Gly Arg Arg Ser Ser Gly Arg Gln Gly Gly Val His Glu Leu			
1540	1545	1550	
Ser Ala Phe Glu Gln Leu Val Val Glu Leu Val Arg His Asp Asp Ser			
1555	1560	1565	
Trp Pro Phe Leu Lys Leu Val Ser Lys Ile Gln Val Pro Asp Tyr Tyr			
1570	1575	1580	
Asp Ile Ile Lys Lys Pro Ile Ala Leu Asn Ile Ile Arg Glu Lys Val			
1585	1590	1595	1600
Asn Lys Cys Glu Tyr Lys Leu Ala Ser Glu Phe Ile Asp Asp Ile Glu			
1605	1610	1615	
Leu Met Phe Ser Asn Cys Phe Glu Tyr Asn Pro Arg Asn Thr Ser Glu			
1620	1625	1630	
Ala Lys Ala Gly Thr Arg Leu Gln Ala Phe Phe His Ile Gln Ala Gln			
1635	1640	1645	
Lys Leu Gly Leu His Val Thr Pro Ser Asn Val Asp Gln Val Ser Thr			
1650	1655	1660	

Pro Pro Ala Ala Lys Lys Ser Arg Ile
1665 1670

<210> 70
<211> 1876
<212> PRT
<213> Homo sapiens

<400> 70
Met Glu Met Glu Ala Asn Glu Ala Asn Asp His Phe Asn Phe Thr Gly
1 5 10 15
Leu Pro Pro Ala Pro Ala Ala Ser Gly Leu Lys Pro Ser Pro Ser Ser
20 25 30
Gly Glu Gly Leu Tyr Thr Asn Gly Ser Pro His Asn Phe Pro Gln Gln
35 40 45
Gly Lys Ser Leu Asn Gly Asp Val Asn Val Asn Gly Leu Ser Thr Val
50 55 60
Ser His Thr Thr Thr Ser Gly Ile Leu Asn Ser Ala Pro His Ser Ser
65 70 75 80
Ser Thr Ser His Leu His His Pro Ser Val Ala Tyr Asp Cys Leu Trp
85 90 95
Asn Tyr Ser Gln Tyr Pro Ser Ala Asn Pro Gly Ser Asn Leu Lys Asp
100 105 110
Pro Pro Leu Leu Ser Gln Phe Ser Gly Gly Gln Tyr Pro Leu Asn Gly
115 120 125
Ile Leu Gly Gly Ser Arg Gln Pro Ser Ser Pro Ser His Asn Thr Asn
130 135 140
Leu Arg Ala Gly Ser Gln Lys Phe Trp Ala Asn Gly Thr His Ser Pro
145 150 155 160
Met Gly Leu Asn Phe Asp Ser Gln Glu Leu Tyr Asp Ser Phe Pro Asp
165 170 175
Gln Asn Phe Glu Glu Val Cys Ser Gly Ile His Pro Asp Glu Ala Ala
180 185 190
Glu Lys Glu Met Thr Ser Val Val Ala Glu Asn Gly Thr Gly Leu Val
195 200 205
Cys Ser Leu Glu Leu Glu Glu Gln Pro Glu Leu Lys Met Cys Gly
210 215 220
Tyr Asn Gly Ser Val Pro Ser Val Glu Ser Leu His Gln Glu Val Ser
225 230 235 240
Val Leu Val Pro Asp Pro Thr Val Ser Cys Leu Asp Asp Pro Ser His
245 250 255
Leu Pro Asp Gln Leu Glu Asp Thr Pro Ile Leu Ser Glu Asp Ser Leu
260 265 270
Glu Pro Phe Asn Ser Leu Ala Pro Glu Pro Val Ser Gly Gly Leu Tyr
275 280 285
Gly Ile Asp Asp Thr Glu Leu Met Gly Ala Glu Asp Lys Leu Pro Leu
290 295 300
Glu Asp Ser Pro Val Ile Ser Ala Leu Asp Cys Pro Ser Leu Asn Asn
305 310 315 320
Ala Thr Ala Phe Ser Leu Leu Ala Asp Asp Ser Gln Thr Ser Thr Ser
325 330 335
Ile Phe Ala Ser Pro Thr Ser Pro Pro Val Leu Gly Glu Ser Val Leu
340 345 350
Gln Asp Asn Ser Phe Asp Leu Asn Gly Ser Asp Ala Glu Gln Glu
355 360 365
Glu Met Glu Thr Gln Ser Ser Asp Phe Pro Pro Ser Leu Thr Gln Pro
370 375 380

Ala Pro Asp Gln Ser Ser Thr Ile Gln Leu His Pro Ala Thr Ser Pro
 385 390 395 400
 Ala Val Ser Pro Thr Thr Ser Pro Ala Val Ser Leu Val Val Ser Pro
 405 410 415
 Ala Ala Ser Pro Glu Ile Ser Pro Glu Val Cys Pro Ala Ala Ser Thr
 420 425 430
 Val Val Ser Pro Ala Val Phe Ser Val Val Ser Pro Ala Ser Ser Ala
 435 440 445
 Val Leu Pro Ala Val Ser Leu Glu Val Pro Leu Thr Ala Ser Val Thr
 450 455 460
 Ser Pro Lys Ala Ser Pro Val Thr Ser Pro Ala Ala Ala Phe Pro Thr
 465 470 475 480
 Ala Ser Pro Ala Asn Lys Asp Val Ser Ser Phe Leu Glu Thr Thr Ala
 485 490 495
 Asp Val Glu Glu Ile Thr Gly Glu Gly Leu Thr Ala Ser Gly Ser Gly
 500 505 510
 Asp Val Met Arg Arg Arg Ile Ala Thr Pro Glu Glu Val Arg Leu Pro
 515 520 525
 Leu Gln His Gly Trp Arg Arg Glu Val Arg Ile Lys Lys Gly Ser His
 530 535 540
 Arg Trp Gln Gly Glu Thr Trp Tyr Tyr Gly Pro Cys Gly Lys Arg Met
 545 550 555 560
 Lys Gln Phe Pro Glu Val Ile Lys Tyr Leu Ser Arg Asn Leu Val His
 565 570 575
 Ser Val Arg Arg Glu His Phe Ser Phe Ser Pro Arg Met Pro Val Gly
 580 585 590
 Asp Phe Phe Glu Glu Arg Asp Thr Pro Glu Gly Leu Gln Trp Val Gln
 595 600 605
 Leu Ser Ala Glu Glu Ile Pro Ser Arg Ile Gln Ala Ile Thr Gly Lys
 610 615 620
 Arg Gly Arg Pro Arg Asn Thr Glu Lys Ala Lys Thr Lys Glu Val Pro
 625 630 635 640
 Lys Val Lys Arg Gly Arg Gly Arg Pro Pro Lys Val Lys Ile Thr Glu
 645 650 655
 Leu Leu Asn Lys Thr Asp Asn Arg Pro Leu Lys Lys Leu Glu Ala Gln
 660 665 670
 Glu Thr Leu Asn Glu Glu Asp Lys Ala Lys Ile Ala Lys Ser Lys Lys
 675 680 685
 Lys Met Arg Gln Lys Val Gln Arg Gly Glu Cys Leu Thr Thr Ile Gln
 690 695 700
 Gly Gln Ala Arg Asn Lys Phe Lys Gln Glu Thr Lys Ser Leu Lys His
 705 710 715 720
 Lys Glu Ala Lys Lys Lys Ser Lys Ala Glu Lys Glu Arg Gly Lys Thr
 725 730 735
 Lys Gln Glu Lys Leu Lys Glu Lys Val Lys Arg Glu Lys Lys Glu Lys
 740 745 750
 Val Lys Lys Glu Lys Glu Glu Val Thr Lys Ala Lys Pro Ala Cys Lys
 755 760 765
 Ala Asp Lys Thr Leu Ala Thr Gln Arg Arg Leu Glu Glu Arg Gln Lys
 770 775 780
 Gln Gln Met Ile Leu Glu Glu Met Lys Lys Pro Thr Glu Asp Met Cys
 785 790 795 800
 Leu Thr Asp His Gln Pro Leu Pro Asp Phe Ser Arg Val Pro Gly Leu
 805 810 815
 Thr Leu Pro Ser Gly Ala Phe Ser Asp Cys Leu Thr Ile Val Glu Phe
 820 825 830
 Leu His Ser Pro Gly Lys Val Leu Gly Phe Asp Pro Ala Lys Asp Val

835	840	845
Pro Ser Leu Gly Val Leu Gln Glu Gly Leu Leu Cys Gln Gly Asp Ser		
850	855	860
Leu Gly Glu Val Gln Asp Leu Leu Val Arg Leu Leu Lys Ala Ala Leu		
865	870	875
His Asp Pro Gly Phe Pro Ser Tyr Cys Gln Ser Lys Lys Ile Leu Gly		
885	890	895
Glu Lys Val Ser Glu Ile Pro Leu Thr Arg Asp Asn Val Ser Glu Ile		
900	905	910
Leu Arg Cys Phe Leu Met Ala Tyr Gly Val Glu Pro Ala Leu Cys Asp		
915	920	925
Arg Leu Arg Thr Gln Pro Phe Gln Ala Gln Pro Pro Gln Gln Lys Ala		
930	935	940
Ala Val Leu Ala Phe Pro Val His Glu Leu Asn Gly Ser Thr Leu Ile		
945	950	955
Ile Asn Glu Ile Asp Lys Thr Leu Glu Ser Met Ser Ser Tyr Arg Lys		
965	970	975
Asn Lys Trp Ile Val Glu Gly Arg Leu Arg Arg Leu Lys Thr Val Leu		
980	985	990
Ala Lys Arg Thr Gly Arg Ser Glu Val Glu Met Gly Arg Pro Glu Glu		
995	1000	1005
Cys Leu Gly Arg Arg Arg Ser Ser Arg Ile Met Glu Glu Thr Ser Gly		
1010	1015	1020
Met Glu Glu Glu Glu Glu Glu Glu Ser Ile Ala Ala Val Pro Gly Arg		
1025	1030	1035
Arg Gly Arg Arg Asp Gly Glu Val Asp Ala Thr Ala Ser Ser Ile Pro		
1045	1050	1055
Glu Leu Glu Arg Gln Ile Glu Lys Leu Ser Lys Arg Gln Leu Phe Phe		
1060	1065	1070
Arg Lys Lys Leu Leu His Ser Ser Gln Met Leu Arg Ala Val Ser Leu		
1075	1080	1085
Gly Gln Asp Arg Tyr Arg Arg Arg Tyr Trp Val Leu Pro Tyr Leu Ala		
1090	1095	1100
Gly Ile Phe Val Glu Gly Thr Glu Gly Asn Leu Val Pro Glu Glu Val		
1105	1110	1115
Ile Lys Lys Glu Thr Asp Ser Leu Lys Val Ala Ala His Ala Ser Leu		
1125	1130	1135
Asn Pro Ala Leu Phe Ser Met Lys Met Glu Leu Ala Gly Ser Asn Thr		
1140	1145	1150
Thr Ala Ser Ser Pro Ala Arg Ala Arg Ser Arg Pro Leu Lys Thr Lys		
1155	1160	1165
Pro Gly Phe Met Gln Pro Arg Glu Phe Lys Ser Pro Val Arg Gly Gln		
1170	1175	1180
Asp Ser Glu Gln Pro Gln Ala Gln Leu Gln Pro Glu Ala Gln Leu His		
1185	1190	1195
Val Pro Ala Gln Pro Gln Pro Gln Leu Gln Leu Gln Leu Gln Ser His		
1205	1210	1215
Lys Gly Phe Leu Glu Gln Glu Gly Ser Pro Leu Ser Leu Gly Gln Ser		
1220	1225	1230
Gln His Asp Leu Ser Gln Ser Ala Phe Leu Ser Trp Leu Ser Gln Thr		
1235	1240	1245
Gln His Ser Ser Leu Leu Ser Ser Val Leu Thr Pro Asp Ser Ser		
1250	1255	1260
Pro Gly Lys Leu Asp Pro Ala Pro Ser Gln Pro Pro Glu Glu Pro Glu		
1265	1270	1275
Pro Asp Glu Ala Glu Ser Ser Pro Asp Leu Gln Ala Phe Trp Phe Asn		
1285	1290	1295

Ile Ser Ala Gln Met Pro Cys Asn Ala Ala Pro Thr Pro Pro Leu Ala
 1300 1305 1310
 Val Ser Glu Asp Gln Pro Thr Pro Ser Pro Gln Gln Leu Ala Ser Ser
 1315 1320 1325
 Lys Pro Met Asn Arg Pro Ser Ala Ala Asn Pro Cys Ser Pro Val Gln
 1330 1335 1340
 Phe Ser Ser Thr Pro Leu Ala Gly Leu Ala Pro Lys Arg Arg Ala Gly
 1345 1350 1355 1360
 Asp Pro Gly Glu Met Pro Gln Ser Pro Thr Gly Leu Gly Gln Pro Lys
 1365 1370 1375
 Arg Arg Gly Arg Pro Pro Ser Lys Phe Phe Lys Gln Met Glu Gln Arg
 1380 1385 1390
 Val Leu Thr Gln Leu Thr Ala Gln Pro Val Pro Pro Glu Met Cys Ser
 1395 1400 1405
 Gly Trp Trp Trp Ile Pro Asp Pro Glu Met Leu Asp Ala Met Leu Lys
 1410 1415 1420
 Ala Leu His Pro Arg Gly Ile Arg Glu Lys Ala Leu His Lys His Leu
 1425 1430 1435 1440
 Asn Lys His Arg Asp Phe Leu Gln Glu Val Cys Leu Arg Pro Ser Ala
 1445 1450 1455
 Asp Pro Ile Pro Glu Pro Arg Gln Leu Pro Ala Phe Gln Glu Gly Ile
 1460 1465 1470
 Met Ser Trp Ser Pro Lys Glu Lys Thr Tyr Glu Thr Asp Leu Ala Val
 1475 1480 1485
 Leu Gln Trp Val Glu Glu Leu Glu Gln Arg Val Ile Met Ser Asp Leu
 1490 1495 1500
 Gln Ile Arg Gly Trp Thr Cys Pro Ser Pro Asp Ser Thr Arg Glu Asp
 1505 1510 1515 1520
 Leu Ala Tyr Cys Glu His Leu Ser Asp Ser Gln Glu Asp Ile Thr Trp
 1525 1530 1535
 Arg Gly Pro Gly Arg Glu Gly Leu Ala Pro Gln Arg Lys Thr Thr Asn
 1540 1545 1550
 Pro Leu Asp Leu Ala Val Met Arg Leu Ala Ala Leu Glu Gln Asn Val
 1555 1560 1565
 Lys Arg Arg Tyr Leu Arg Glu Pro Leu Trp Pro Thr His Glu Trp Val
 1570 1575 1580
 Leu Glu Lys Ala Leu Leu Ser Thr Pro Asn Gly Ala Pro Glu Gly Thr
 1585 1590 1595 1600
 Thr Thr Glu Ile Ser Tyr Glu Ile Thr Pro Arg Ile Arg Ile Trp Arg
 1605 1610 1615
 Gln Thr Leu Gln Arg Cys Arg Ser Ala Ala His Val Cys Leu Cys Leu
 1620 1625 1630
 Gly His Leu Glu Arg Ser Ile Ala Trp Glu Lys Ser Val Asn Lys Val
 1635 1640 1645
 Thr Cys Leu Val Cys Arg Lys Gly Asp Asn Asp Glu Phe Leu Leu Leu
 1650 1655 1660
 Cys Asp Gly Cys Asp Arg Gly Cys His Ile Tyr Cys His Arg Pro Lys
 1665 1670 1675 1680
 Met Glu Ala Val Pro Glu Gly Asp Trp Phe Cys Thr Val Cys Leu Ala
 1685 1690 1695
 Gln Gln Val Glu Gly Glu Phe Thr Gln Lys Pro Gly Phe Pro Lys Arg
 1700 1705 1710
 Gly Gln Lys Arg Lys Ser Gly Tyr Ser Leu Asn Phe Ser Glu Gly Asp
 1715 1720 1725
 Gly Arg Arg Arg Arg Val Leu Leu Lys Gly Arg Glu Ser Pro Ala Ala
 1730 1735 1740
 Gly Pro Arg Tyr Ser Glu Glu Arg Leu Ser Pro Ser Lys Arg Arg Pro

1745		1750		1755		1760
Leu Ser Met Arg Asn His His Ser Asp Leu Thr Phe Cys Glu Ile Ile						
	1765		1770		1775	
Leu Met Glu Met Glu Ser His Asp Ala Ala Trp Pro Phe Leu Glu Pro						
	1780		1785		1790	
Val Asn Pro Arg Leu Val Ser Gly Tyr Arg Arg Ile Ile Lys Asn Pro						
	1795		1800		1805	
Met Asp Phe Ser Thr Met Arg Glu Arg Leu Leu Arg Gly Gly Tyr Thr						
	1810		1815		1820	
Ser Ser Glu Glu Phe Ala Ala Asp Ala Leu Leu Val Phe Asp Asn Cys						
1825		1830		1835		1840
Gln Thr Phe Asn Glu Asp Asp Ser Glu Val Gly Lys Ala Gly His Ile						
	1845		1850		1855	
Met Arg Arg Phe Phe Glu Ser Arg Trp Glu Glu Phe Tyr Gln Gly Lys						
	1860		1865		1870	
Gln Ala Asn Leu						
	1875					

<210> 71
 <211> 1969
 <212> PRT
 <213> Homo sapiens

<400> 71	
Met Gly Gln Thr Lys Ser Thr Ser Ser Gly Gly Gly Asn Arg Lys Cys	
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Asn Gln Glu Gln Ser Lys Asn Gln Pro Leu Asp Ala Arg Val Asp Lys	
	20 25 30
Ile Lys Asp Lys Lys Pro Arg Lys Lys Ala Met Glu Ser Ser Asn	
	35 40 45
Ser Asp Ser Asp Ser Gly Thr Ser Ser Asp Thr Ser Ser Glu Gly Ile	
	50 55 60
Ser Ser Ser Asp Ser Asp Asp Leu Glu Glu Asp Glu Glu Glu Glu Asp	
65	70 75 80
Gln Ser Ile Glu Glu Ser Glu Asp Asp Asp Ser Asp Ser Glu Ser Glu	
	85 90 95
Ala Gln His Lys Ser Asn Asn Gln Val Leu Leu His Gly Ile Ser Asp	
	100 105 110
Pro Lys Ala Asp Gly Gln Lys Ala Thr Glu Lys Ala Gln Glu Lys Arg	
	115 120 125
Ile His Gln Pro Leu Pro Leu Ala Phe Glu Ser Gln Thr His Ser Phe	
	130 135 140
Gln Ser Gln Gln Lys Gln Pro Gln Val Leu Ser Gln Gln Leu Pro Phe	
145	150 155 160
Ile Phe Gln Ser Ser Gln Ala Lys Glu Glu Ser Val Asn Lys His Thr	
	165 170 175
Ser Val Ile Gln Ser Thr Gly Leu Val Ser Asn Val Lys Pro Leu Ser	
	180 185 190
Leu Val Asn Gln Ala Lys Lys Glu Thr Tyr Met Lys Leu Ile Val Pro	
	195 200 205
Ser Pro Asp Val Leu Lys Ala Gly Asn Lys Asn Thr Ser Glu Glu Ser	
	210 215 220
Ser Leu Leu Thr Ser Glu Leu Arg Ser Lys Arg Glu Gln Tyr Lys Gln	
225	230 235 240
Ala Phe Pro Ser Gln Leu Lys Lys Gln Glu Ser Ser Lys Ser Leu Lys	
	245 250 255
Lys Val Ile Ala Ala Leu Ser Asn Pro Lys Ala Thr Ser Ser Ser Pro	

	260		265		270
Ala His Pro Lys Gln Thr Leu Glu Asn Asn His Pro Asn Pro Phe Leu					
275		280		285	
Thr Asn Ala Leu Leu Gly Asn His Gln Pro Asn Gly Val Ile Gln Ser					
290		295		300	
Val Ile Gln Glu Ala Pro Leu Ala Leu Thr Thr Lys Thr Lys Met Gln					
305		310		315	320
Ser Lys Ile Asn Glu Asn Ile Ala Ala Ala Ser Ser Thr Pro Phe Ser					
	325		330		335
Ser Pro Val Asn Leu Ser Thr Ser Gly Arg Arg Thr Pro Gly Asn Gln					
	340		345		350
Thr Pro Val Met Pro Ser Ala Ser Pro Ile Leu His Ser Gln Gly Lys					
	355		360		365
Glu Lys Ala Val Ser Asn Asn Val Asn Pro Val Lys Thr Gln His His					
	370		375		380
Ser His Pro Ala Lys Ser Leu Val Glu Gln Phe Arg Gly Thr Asp Ser					
385		390		395	400
Asp Ile Pro Ser Ser Lys Asp Ser Glu Asp Ser Asn Glu Asp Glu Glu					
	405		410		415
Glu Asp Asp Glu Glu Glu Asp Glu Glu Asp Glu Asp Asp Glu Ser Asp					
	420		425		430
Asp Ser Gln Ser Glu Ser Asp Ser Asn Ser Glu Ser Asp Thr Glu Gly					
	435		440		445
Ser Glu Glu Glu Asp Asp Asp Asp Lys Asp Gln Asp Glu Ser Asp Ser					
	450		455		460
Asp Thr Glu Gly Glu Lys Thr Ser Met Lys Leu Asn Lys Thr Thr Ser					
465		470		475	480
Ser Lys Ser Pro Ser Met Ser Leu Thr Gly His Ser Thr Pro Arg Asn					
	485		490		495
Leu His Ile Ala Lys Ala Pro Gly Ser Ala Pro Ala Ala Leu Cys Ser					
	500		505		510
Glu Ser Gln Ser Pro Ala Phe Leu Gly Thr Ser Ser Ser Thr Leu Thr					
	515		520		525
Ser Ser Pro His Ser Gly Thr Ser Lys Arg Arg Arg Val Thr Asp Glu					
	530		535		540
Arg Glu Leu Arg Leu Pro Leu Glu Tyr Gly Trp Gln Arg Glu Thr Arg					
545		550		555	560
Ile Arg Asn Phe Gly Gly Arg Leu Gln Gly Glu Val Ala Tyr Tyr Ala					
	565		570		575
Pro Cys Gly Lys Lys Leu Arg Gln Tyr Pro Glu Val Ile Lys Tyr Leu					
	580		585		590
Ser Arg Asn Gly Ile Met Asp Ile Ser Arg Asp Asn Phe Ser Phe Ser					
	595		600		605
Ala Lys Ile Arg Val Gly Asp Phe Tyr Glu Ala Arg Asp Gly Pro Gln					
	610		615		620
Glu Met Gln Trp Cys Leu Leu Lys Glu Glu Asp Val Ile Pro Arg Ile					
625		630		635	640
Arg Ala Met Glu Gly Arg Arg Gly Arg Pro Pro Asn Pro Asp Arg Gln					
	645		650		655
Arg Ala Arg Glu Glu Ser Arg Met Arg Arg Arg Lys Gly Arg Pro Pro					
	660		665		670
Asn Val Gly Asn Ala Glu Phe Leu Asp Asn Ala Asp Ala Lys Leu Leu					
	675		680		685
Arg Lys Leu Gln Ala Gln Glu Ala Arg Gln Ala Ala Gln Ile Lys Leu					
	690		695		700
Leu Arg Lys Leu Gln Lys Gln Glu Gln Ala Arg Val Ala Lys Glu Ala					
705		710		715	720

Lys Lys Gln Gln Ala Ile Met Ala Ala Glu Glu Lys Arg Lys Gln Lys
 725 730 735
 Glu Gln Ile Lys Ile His Lys Gln Gln Glu Lys Ile Lys Arg Ile Gln
 740 745 750
 Gln Ile Arg Met Glu Lys Glu Leu Arg Ala Gln Gln Ile Leu Glu Ala
 755 760 765
 Lys Lys Lys Lys Lys Glu Glu Ala Ala Asn Ala Lys Leu Leu Glu Ala
 770 775 780
 Glu Lys Arg Ile Lys Glu Arg Glu Met Arg Arg Gln Gln Ala Val Leu
 785 790 795 800
 Leu Lys Arg Gln Glu Arg Glu Arg Arg Arg Gln His Met Met Leu Met
 805 810 815
 Lys Ala Met Glu Ala Arg Lys Lys Ala Glu Glu Lys Glu Arg Leu Lys
 820 825 830
 Gln Glu Lys Arg Asp Glu Lys Arg Leu Asn Lys Glu Arg Lys Leu Glu
 835 840 845
 Gln Arg Arg Leu Glu Leu Glu Met Ala Lys Glu Leu Lys Lys Pro Asn
 850 855 860
 Glu Asp Met Cys Leu Ala Asp Gln Lys Pro Leu Pro Glu Leu Pro Arg
 865 870 875 880
 Ile Pro Gly Leu Val Leu Ser Gly Ser Thr Phe Ser Asp Cys Leu Met
 885 890 895
 Val Val Gln Phe Leu Arg Asn Phe Gly Lys Val Leu Gly Phe Asp Val
 900 905 910
 Asn Ile Asp Val Pro Asn Leu Ser Val Leu Gln Glu Gly Ile Leu Leu
 915 920 925
 Asn Ile Gly Asp Ser Met Gly Glu Val Gln Asp Leu Leu Val Arg Leu
 930 935 940
 Leu Ser Ala Ala Val Cys Asp Pro Gly Leu Ile Thr Gly Tyr Lys Ala
 945 950 955 960
 Lys Thr Ala Leu Gly Glu His Leu Leu Asn Val Gly Val Asn Arg Asp
 965 970 975
 Asn Val Ser Glu Ile Leu Gln Ile Phe Met Glu Ala His Cys Gly Gln
 980 985 990
 Thr Glu Leu Thr Glu Ser Leu Lys Thr Lys Ala Phe Gln Ala His Thr
 995 1000 1005
 Pro Ala Gln Lys Ala Val Leu Ala Phe Leu Ile Asn Glu Leu Ala Cys
 1010 1015 1020
 Ser Lys Ser Val Val Ser Glu Ile Asp Lys Asn Ile Asp Tyr Met Ser
 1025 1030 1035 1040
 Asn Leu Arg Arg Asp Lys Asn Val Val Glu Gly Lys Leu Arg Lys Leu
 1045 1050 1055
 Arg Ile Ile His Ala Lys Lys Thr Gly Lys Arg Asp Thr Ser Gly Gly
 1060 1065 1070
 Ile Asp Leu Gly Glu Glu Gln His Pro Leu Gly Thr Pro Thr Pro Gly
 1075 1080 1085
 Arg Lys Arg Arg Arg Lys Gly Gly Asp Ser Asp Tyr Asp Asp Asp Asp
 1090 1095 1100
 Asp Asp Asp Ser Asp Asp Gln Gly Asp Glu Asp Asp Glu Asp Glu Glu
 1105 1110 1115 1120
 Asp Lys Glu Asp Gln Lys Gly Lys Lys Thr Asp Ile Cys Glu Asp Glu
 1125 1130 1135
 Asp Glu Gly Asp Gln Ala Ala Ser Val Glu Glu Leu Glu Lys Gln Ile
 1140 1145 1150
 Glu Lys Leu Ser Lys Gln Gln Ser Gln Tyr Arg Arg Lys Leu Phe Asp
 1155 1160 1165
 Ala Ser His Ser Leu Arg Ser Val Met Phe Gly Pro Asp Arg Tyr Arg

1170	1175	1180
Arg Arg Tyr Trp Ile Leu Pro Arg Cys Gly Gly Ile Phe Val Glu Gly		
1185	1190	1195
Met Glu Ser Gly Glu Gly Leu Glu Glu Ile Ala Lys Glu Arg Glu Lys		1200
	1205	1210
Leu Lys Lys Ala Glu Ser Val Gln Ile Lys Glu Glu Met Phe Glu Thr		1215
	1220	1225
Ser Gly Asp Ser Leu Asn Cys Ser Asn Thr Asp His Cys Glu Gln Lys		1230
	1235	1240
Glu Asp Leu Lys Glu Lys Asp Asn Thr Asn Leu Phe Leu Gln Lys Pro		1245
	1250	1255
Gly Ser Phe Ser Lys Leu Ser Lys Leu Leu Glu Val Ala Lys Met Pro		1260
1265	1270	1275
Pro Glu Ser Glu Val Met Thr Pro Lys Pro Asn Ala Gly Ala Asn Gly		1280
	1285	1290
Cys Thr Leu Ser Tyr Gln Asn Ser Gly Lys His Ser Leu Gly Ser Val		1295
	1300	1305
Gln Ser Thr Ala Thr Gln Ser Asn Val Glu Lys Ala Asp Ser Asn Asn		1310
	1315	1320
Leu Phe Asn Thr Gly Ser Ser Gly Pro Gly Lys Phe Tyr Ser Pro Leu		1325
	1330	1335
Pro Asn Asp Gln Leu Leu Lys Thr Leu Thr Glu Lys Asn Arg Gln Trp		1340
1345	1350	1355
Phe Ser Leu Leu Pro Arg Thr Pro Cys Asp Asp Thr Ser Leu Thr His		1360
	1365	1370
Ala Asp Met Ser Thr Ala Ser Leu Val Thr Pro Gln Ser Gln Pro Pro		1375
	1380	1385
Ser Lys Ser Pro Ser Pro Thr Pro Ala Pro Leu Gly Ser Ser Ala Gln		1390
	1395	1400
Asn Pro Val Gly Leu Asn Pro Phe Ala Leu Ser Pro Leu Gln Val Lys		1405
	1410	1415
Gly Gly Val Ser Met Met Gly Leu Gln Phe Cys Gly Trp Pro Thr Gly		1420
1425	1430	1435
Val Val Thr Ser Asn Ile Pro Phe Thr Leu Ser Val Pro Ser Leu Gly		1440
	1445	1450
Ser Gly Leu Gly Leu Ser Glu Gly Asn Gly Asn Ser Phe Leu Thr Ser		1455
	1460	1465
Asn Val Ala Ser Ser Lys Ser Glu Ser Pro Val Pro Gln Asn Glu Lys		1470
	1475	1480
Ala Thr Ser Ala Gln Pro Ala Ala Val Glu Val Ala Lys Pro Val Asp		1485
	1490	1495
Phe Pro Ser Pro Lys Pro Ile Pro Glu Glu Met Gln Phe Gly Trp Trp		1500
1505	1510	1515
Arg Ile Ile Asp Pro Glu Asp Leu Lys Ala Leu Leu Lys Val Leu His		1520
	1525	1530
Leu Arg Gly Ile Arg Glu Lys Ala Leu Gln Lys Gln Ile Gln Lys His		1535
	1540	1545
Leu Asp Tyr Ile Thr Gln Ala Cys Leu Lys Asn Lys Asp Val Ala Ile		1550
	1555	1560
Ile Glu Leu Asn Glu Asn Glu Glu Asn Gln Val Thr Arg Asp Ile Val		1565
	1570	1575
Glu Asn Trp Ser Val Glu Glu Gln Ala Met Glu Met Asp Leu Ser Val		1580
1585	1590	1595
Leu Gln Gln Val Glu Asp Leu Glu Arg Arg Val Ala Ser Ala Ser Leu		1600
	1605	1610
Gln Val Lys Gly Trp Met Cys Pro Glu Pro Ala Ser Glu Arg Glu Asp		1615
	1620	1625
		1630

Leu Val Tyr Phe Glu His Lys Ser Phe Thr Lys Leu Cys Lys Glu His
 1635 1640 1645
 Asp Gly Glu Phe Thr Gly Glu Asp Glu Ser Ser Ala His Ala Leu Glu
 1650 1655 1660
 Arg Lys Ser Asp Asn Pro Leu Asp Ile Ala Val Thr Arg Leu Ala Asp
 1665 1670 1675 1680
 Leu Glu Arg Asn Ile Glu Arg Arg Ile Glu Glu Asp Ile Ala Pro Gly
 1685 1690 1695
 Leu Arg Val Trp Arg Arg Ala Leu Ser Glu Ala Arg Ser Ala Ala Gln
 1700 1705 1710
 Val Ala Leu Cys Ile Gln Gln Leu Gln Lys Ser Ile Ala Trp Glu Lys
 1715 1720 1725
 Ser Ile Met Lys Val Tyr Cys Gln Ile Cys Arg Lys Gly Asp Asn Glu
 1730 1735 1740
 Glu Leu Leu Leu Leu Cys Asp Gly Cys Asp Lys Gly Cys His Thr Tyr
 1745 1750 1755 1760
 Cys His Arg Pro Lys Ile Thr Thr Ile Pro Asp Gly Asp Trp Phe Cys
 1765 1770 1775
 Pro Ala Cys Ile Ala Lys Ala Ser Gly Gln Thr Leu Lys Ile Lys Lys
 1780 1785 1790
 Leu His Val Lys Gly Lys Lys Thr Asn Glu Ser Lys Lys Gly Lys Lys
 1795 1800 1805
 Val Thr Leu Thr Gly Asp Thr Glu Asp Glu Asp Ser Ala Ser Thr Ser
 1810 1815 1820
 Ser Ser Leu Lys Arg Gly Asn Lys Asp Leu Gln Lys Arg Lys Met Glu
 1825 1830 1835 1840
 Glu Asn Thr Ser Ile Asn Leu Ser Lys Gln Glu Ser Phe Thr Ser Val
 1845 1850 1855
 Lys Lys Pro Lys Arg Asp Asp Ser Lys Asp Leu Ala Leu Cys Ser Met
 1860 1865 1870
 Ile Leu Thr Glu Met Glu Thr His Glu Asp Ala Trp Pro Phe Leu Leu
 1875 1880 1885
 Pro Val Asn Leu Lys Leu Val Pro Gly Tyr Lys Lys Val Ile Lys Lys
 1890 1895 1900
 Pro Met Asp Phe Ser Thr Ile Arg Glu Lys Leu Ser Ser Gly Gln Tyr
 1905 1910 1915 1920
 Pro Asn Leu Glu Thr Phe Ala Leu Asp Val Arg Leu Val Phe Asp Asn
 1925 1930 1935
 Cys Glu Thr Phe Trp Glu Asp Asp Ser Asp Ile Gly Arg Ala Gly His
 1940 1945 1950
 Asn Met Arg Lys Tyr Phe Glu Lys Lys Trp Thr Asp Thr Phe Lys Val
 1955 1960 1965
 Ser

<210> 72
 <211> 12
 <212> DNA
 <213> Homo sapiens

<400> 72
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